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INTRODUCTION.

This REVIEW is based on reports for May, 1893, from 3,201 regular and voluntary observers. These reports are classified as follows: 167 reports from Weather Bureau stations; 44 reports from United States Army post surgeons; 2,200 monthly reports from state weather service and voluntary observers; 220 reports through the Southern Pacific

Railway Company; 540 marine reports through the co-operation of the Hydrographic Office, Navy Department; 30 reports from Canadian stations; marine reports through the "New York Herald Weather Service"; monthly reports from local services established in all states and territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

CHARACTERISTICS OF THE WEATHER FOR MAY, 1893.

The month was cooler than usual, except along the New England and Gulf coasts, and in New Brunswick, Nova Scotia, and the British Northwest Territory. In the north Pacific coast states the mean temperature was the lowest ever reported for May. The frost line was carried to north parts of the south Atlantic and east Gulf states on the 4th and 17th to 19th, and to central Arkansas on the 2d, 3d, and 17th.

PRECIPITATION.

The monthly precipitation was in excess of the May average generally in the middle Atlantic and New England states, the Ohio and middle Mississippi valleys, the interior of the middle and west Gulf states, and from the north Pacific coast over the northeast slope of the Rocky Mountains. At Eastport, Me., along the south Atlantic and immediate Gulf coasts, and from the middle-eastern slope of the Rocky Mountains over the valley of the Red River of the North and the southwestern lake region the monthly precipitation was less than the usual amount. At points on the middle New England coast, and at stations in Pennsylvania, West Virginia, northern Ohio, Tennessee, the southern plateau region, Montana, and Washington the monthly rainfall was the greatest ever reported for May. The monthly snowfall exceeded 20 inches in the mountains of Colorado, northeastern California, Wyoming, Idaho, and Montana, and at points in northern Upper Michigan, and northern Wisconsin. No snow fell in the Atlantic coast states, except trace in Maryland on the 4th.

LOCAL STORMS.

Destructive local storms occurred in the Carolinas on the 3d. At Oxford, N. C., a tornado killed 1 person and destroyed property valued at \$16,000. On the 4th violent gales pre-

vailed on the middle Atlantic and New England coasts. Severe local storms occurred in the Ohio Valley and Oklahoma on the 5th, in the Gulf States and Arkansas on the 6th, in Iowa on the 10th, in Texas, Illinois, and Wisconsin on the 11th, and in southeastern Lower Michigan on the 12th. Exceptionally heavy rain fell in northern Ohio and northwestern Pennsylvania on the 15th and 16th. Heavy gales were reported from Colorado over the Dakotas on the 18th. Violent storms occurred in the upper Ohio valley on the 20th, in the Northwestern States on the 21st and 22d, in northeastern and north-central districts on the 23d, in Illinois, Missouri, and Kansas on the 25th, in the Ohio Valley and Tennessee on the 26th, in North Carolina on the 27th, in western Tennessee and Georgia on the 28th, in the south Atlantic states, Indiana, Lower Michigan, and the Northwest on the 29th, in New York, the Ohio Valley, and the Southwest on the 30th, and in New York and the Southwest on the 31st.

FLOODS.

The month opened with the Mississippi, Ohio, and Arkansas rivers high and rising rapidly. During the early part of the month floods occurred in streams in Ohio, Pennsylvania, New York, western New England, and Virginia, and rain and melting snow swelled the streams of Washington and Oregon to a dangerous height. Several breaks occurred in the Mississippi levees in Arkansas, and during the latter part of the month crevasses were reported in East Carroll Parish, La.

DROUGHT.

Drought materially damaged small grain crops in central and western Kansas, and injured grass in the western counties of that state.

ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for May, 1893, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

Chart VI exhibits the normal distribution of atmospheric

pressure and prevailing wind-directions over the United States for May. The publication of the charts of this series is preliminary to the publication by the Weather Bureau of specially prepared data and charts showing meteorological and climatic features and conditions of the United States.

In May, 1893, the mean pressure was highest along the north Pacific coast, where it was above 30.05. The mean pressure was above 30.00 over Georgia, southern South Carolina, and the Florida Peninsula. The mean pressure was lowest on the northeast slope of the Rocky Mountains, over the southwestern plateau region, and in the Saint Lawrence Valley, where it was below 29.85.

In May there is usually a decrease of pressure, except on the north Pacific coast and from the Ohio Valley over the middle Atlantic and New England states. The most marked decrease occurs from the lower Colorado valley over southern California and the San Joaquin and Sacramento valleys, and in the upper Missouri and Red River of the North valleys, where it is more than .05, and the greatest increase is shown over eastern New England, where it exceeds .05.

A comparison of the pressure chart for May, 1893, with that of the preceding month shows a decrease of pressure, except over Washington and in an area extending from Wisconsin and Minnesota to central Texas. The most marked decrease of pressure was shown in the Saskatchewan Valley, and over the greater part of New England, New York, and eastern Pennsylvania, where it was .15 to .20. In central and western California and along the middle and south Atlantic coasts the decrease was more than .10. The greatest increase was noted on the Washington coast, where it was .05 to .07.

The mean pressure was below the normal, except from the middle and north Pacific coasts over the middle Rocky Mountain region. The most marked departure below the normal pressure was noted over New York, New England, and Pennsylvania, where it was more than .10, and the greatest departure above the normal pressure was shown over the northwestern plateau region, where the mean values were .05 to .06 higher than usual.

HIGH AND LOW AREAS.

The paths of areas of high and low barometric pressure over the United States and Canada during May, 1893, are shown on Charts IV and I, respectively, and some of the more prominent characteristics of the areas are given in the table at the end of this chapter.

HIGH AREAS.

Seven high areas appeared, the average number traced for May during the last 19 years being 6.7. Of the high areas traced for the current month 4 advanced from the north Pacific coast, 2 from the British Northwest Territory, and 1 occupied the middle-eastern slope of the Rocky Mountains at the opening of the month. Two of the Pacific coast high areas reached the middle Atlantic coast, 1 disappeared by a decrease of pressure over the southern Rocky Mountain region, and 1 passed north of the Lake region. The high areas from the British Northwest Territory passed southeastward to the Atlantic coast, and the high area from the middle-eastern slope of the Rocky Mountains disappeared north of Lake Superior. The average velocity of the high areas was about 6 miles per hour greater than the average velocity of high areas for May. The following is a description of the high areas traced:

I.—Occupied the middle-eastern slope of the Rocky Mountains at the opening of the month. The morning of the 1st the line of freezing weather extended to extreme northwestern Texas, and frost was reported generally in Kansas. The evening of the 2d this high area extended from eastern Nebraska over the Red River of the North Valley, and during the 3d disappeared north of Lake Superior.

II.—Advanced from Manitoba over the Dakotas during the 5th, with a fall of 10° to 15° in temperature in the middle Rocky Mountain region. During the 6th this high area extended from the middle Rocky Mountain region to Lake Superior, freezing weather was reported in northern Colorado,

and in western Colorado tender plants were damaged by frost. During the 7th this high area settled southeastward over the Lake region, and during the 8th the center passed off the middle Atlantic coast.

III.—Occupied the north Pacific coast from the 7th to the 10th. On the 9th a temperature fall of 20° to 30° was reported on the northeast slope of the Rocky Mountains, and the temperature fell 10° to 20° in the Northwest on the 10th. During the 11th the high area advanced to Colorado and the temperature fell 10° to 20° in the lower Missouri and upper Mississippi valleys. On the 12th this high area disappeared by a decrease of pressure over the southern Rocky Mountain region.

IV.—Advanced from Manitoba over the Red River of the North Valley during the 15th, with a temperature fall of 10° to 20° in the central valleys. During the 16th and 17th this high area moved slowly southward to northeastern Texas and passing thence eastward reached the south Atlantic coast on the 19th, its passage being unattended after the 15th by marked changes in temperature.

V.—Appeared off the middle Pacific coast on the 20th and apparently moved slowly northward until the morning of the 22d, when the pressure was 30.40 at the mouth of the Columbia River. On the 21st heavy frost and freezing weather were reported in northern Nevada. During the 22d this high area advanced to Utah, the temperature fell 20° to 40° from northwestern Texas to Lake Superior, and frost was reported in northern Nevada and northern Utah. By the evening of the 23d the high area had advanced to the middle Mississippi valley, the temperature had fallen 20° to 30° in the Lake region and Ohio Valley, and heavy frost was reported in Kansas and Nebraska. Moving eastward this high area passed off the middle Atlantic coast during the 24th, with a temperature fall of about 10° .

VI.—Occupied the north Pacific coast on the 23d, with pressure above 30.30 at the morning report. During the 24th the high area advanced to Montana and the temperature fell about 20° in the Northwest. Passing rapidly eastward this high area reached Wisconsin during the 25th, with a fall of about 20° in temperature from the southwestern Lake region to Kansas, and during the 26th disappeared north of the Lake region.

VII.—Appeared over the northern plateau region on the 26th. On that date heavy frost was reported in northern Utah and southeastern Wyoming. During the 27th this high area advanced to the middle Rocky Mountain region, passed thence to Oklahoma during the 28th, and thence to the south Atlantic states by the 30th, its passage over the Southern States being attended by slight changes in temperature.

LOW AREAS.

The average velocity of areas of low pressure over the United States for May is about 25 statute miles per hour, the average velocity for May, June, and July being the lowest of the year. A large proportion of the May low areas move from the middle and northeast slopes of the Rocky Mountains to eastern Ontario and thence to Newfoundland. An average of less than one low area per month advances from the north Pacific coast and traverses the continent.

The tracks of 11 low areas are plotted on Chart I for May, 1893, the average number traced for May during the last 19 years being 6.8. Of the low areas traced for the current month 3 advanced from the north Pacific coast states, 5 from the Saskatchewan Valley, 1 from the southern plateau region, 1 from the west part of the Gulf of Mexico, and 1 occupied Indiana and Illinois at the opening of the month. One of the low areas from the north Pacific coast reached New England and the other the Gulf of Saint Lawrence. The low area from the south Pacific coast advanced to the lower Rio Grande

valley. Three of the low areas from the Saskatchewan Valley reached the Gulf of Saint Lawrence, 1 the middle Atlantic coast, and 1 occupied the middle Mississippi valley at the close of the month. The low areas from the southern plateau region and the Gulf of Mexico advanced to the Gulf of Saint Lawrence. The following is a description of the low areas whose paths appear on Chart I:

I.—Occupied Indiana and Illinois at the opening of the month, and by the evening report of the 1st had advanced north of the lower lakes, with rain generally east of the Mississippi River, and thunderstorms in Tennessee and northern Georgia. During the 2d this low area apparently disappeared by an increase of pressure north of the Lake region.

II.—Appeared off the Texas coast the evening of the 1st, and during the 2d advanced slowly northeastward to southern Mississippi, with very heavy rain on the middle Gulf coast. During the 3d the center of disturbance passed rapidly northeastward to the Virginia coast with a marked increase in energy. On that date rain fell generally in the Atlantic coast states, gales prevailed from the Georgia to the south New England coasts, and destructive local storms occurred in the Carolinas. The morning of the 4th this low area was central near New York, N. Y., with pressure 29.12, and by the evening report had advanced to the middle Saint Lawrence valley with a decrease in energy. During the 4th the rain area contracted over Pennsylvania, New York, and New England, and an unusually severe wind and rain storm prevailed over New England, New York, and New Jersey. During the 5th the low area moved slowly eastward over New England, and by the morning of the 6th had disappeared over the Gulf of Saint Lawrence.

III.—Occupied the region north of Montana on the 2d, and during the 3d advanced to eastern Montana, with pressure below 29.60, and rain and high winds on the northeast slope of the Rocky Mountains. By the 4th the center of disturbance had passed southeastward to Kansas, with rain in the Missouri and upper Mississippi valleys, and severe local storms in northern Kansas and northwestern Missouri. Moving rapidly eastward this low area reached the middle Atlantic coast the night of the 5th, attended by severe local storms in the Ohio Valley.

IV.—Advanced from the north Pacific coast over British Columbia during the 4th, with rain on the middle and north Pacific coasts. From the 5th to the 9th this low area remained nearly stationary north of Montana, and on the 10th advanced to Manitoba. The evening of the 10th a secondary disturbance appeared over the middle Missouri valley. On that date a marked rise in temperature occurred from the middle Rocky Mountain region over the Great Lakes, rain fell in the middle and upper Missouri and extreme upper Mississippi valleys, the western lake region, and Texas, and local storms were reported in Iowa. During the 11th the low area moved slowly eastward to a position north of Lake Superior, with pressure below 29.50, and rain and local storms occurred from the upper lake region and the Red River of the North Valley to Texas. This low area occupied the upper lake region during the 12th. On that date the rain area extended to the Atlantic and Gulf States, and severe thunderstorms were reported in Michigan. Passing south of east with a marked loss of energy the center of disturbance disappeared off the south New England coast during the 14th, attended by northeast gales on the New England coast during the 13th.

V.—Appeared over the lower Colorado valley during the 4th, and moved thence to western Texas by the evening of the 5th, with pressure below 29.70. Passing southeastward this low area is last located in the lower Rio Grande valley the morning of the 7th. During the 6th and 7th rain and thunder storms occurred in the middle and west Gulf states.

VI.—Appeared over northern Alberta the evening of the

11th, and during the 12th advanced north of Montana, with pressure below 29.60. During the 13th this low area remained nearly stationary north of North Dakota, and during the 14th passed to the upper Mississippi valley, attended by rain from the western lake region to Texas and thunder and hail storms in Illinois and western Michigan. By the evening of the 15th the center of disturbance had reached the upper Ohio valley, the temperature had risen 10° over eastern New York, rain had fallen generally east of the Mississippi River and south of the Lake region, and local storms were reported in the upper Ohio valley.

During the 16th this low area advanced over western New York with a marked increase in energy, the 8 p. m. barometer reading at Buffalo, N. Y., being 29.26. On that date heavy rain fell in the lower lake region, the upper Ohio valley, and middle Atlantic and New England states, and high winds prevailed along the middle Atlantic and south New England coasts, and over the southern lake region. During the 17th the storm-center advanced to the upper Saint Lawrence valley, heavy rain continued in western Pennsylvania and western New York, and high winds prevailed along the New England coast and over the Lake region. By the evening of the 18th this low area had advanced to New Brunswick, and rain had been followed by rapidly clearing weather in New England.

VII.—Occupied the region north of eastern Montana the evening of the 17th. On that date the temperature rose 10° to 12° in the western Dakotas, rain fell in the region north of Montana, and high winds prevailed over the Rocky Mountain and plateau regions. During the 18th this low area advanced to western South Dakota, with pressure below 29.10, the temperature rose about 10° in the middle Ohio valley, the interior of the middle Gulf states, and on the southeast slope of the Rocky Mountains, rain fell in eastern Montana and parts of the middle plateau region, and severe windstorms prevailed in the Northwest.

During the 19th the center of disturbance moved to Manitoba, with pressure below 29.00, the temperature rose 10° to 26° in the Lake Superior region, rain fell in the extreme northwest, and severe windstorms prevailed from the western lake region to the Rocky Mountains. During the 20th the low area moved rapidly eastward north of the Lake region, with a marked decrease in energy, the temperature rose 10° to 15° in areas in the middle Atlantic and New England states and the eastern lake region, the rain area contracted over the middle and upper Ohio valleys and lower lake region, and severe local storms were reported in the upper Ohio valley. During the 21st this low area disappeared over the Gulf of Saint Lawrence.

VIII.—Appeared over Washington the night of the 19th, and during the 20th moved southeastward to the middle Rocky Mountain region, with a rise in temperature of 10° to 20° from the Dakotas to Kansas, and rain from the north Pacific coast over the northern Rocky Mountain region. During the 21st this low area advanced to Nebraska, with pressure below 29.30 at the evening report. On that date rain fell in the Northwest and in areas in the upper Mississippi and Ohio valleys, and severe local storms occurred in Minnesota, Iowa, and South Dakota. By the evening of the 22d the storm-center had advanced to extreme northern Illinois, rain had fallen from the middle Rocky Mountains over the western lake region, the temperature had risen 10° to 20° over the southern lake region, and severe local storms were reported in South Dakota, Iowa, Nebraska, Minnesota, and Wisconsin. During the 23d the center of disturbance moved rapidly eastward to the lower Saint Lawrence valley, rain fell generally east of the Mississippi River, and severe thunderstorms occurred in the middle Atlantic states, the lower lake region, Lower Michigan, and the Ohio Valley. On the 24th this low area disappeared over the Gulf of Saint Lawrence.

IX.—Appeared on the northeast slope of the Rocky Mountains the night of the 22d, and during the 23d advanced to South Dakota, with pressure below 29.60. On that date the temperature rose 10° to 20° from the southern Rocky Mountain region to Minnesota, and heavy rain fell on the northeast slope of the Rocky Mountains. During the 24th the center of disturbance advanced over the upper Mississippi valley, the temperature rose 10° to 15° in the Ohio Valley and the southwestern lake region, rain fell in the northwestern lake region, and high winds prevailed over the Lake region and upper Mississippi and middle Missouri valleys. During the 25th this low area moved rapidly north of east over the Saint Lawrence Valley, and rain fell in northern New York and northern New England.

X.—Appeared over the southern plateau region on the 25th, and passed rapidly eastward to southern Missouri during the night of that date. On the 25th rain fell from the middle Rocky Mountain region over the upper Mississippi valley, and destructive local storms occurred in the evening and at night in Kansas and Missouri. By the evening of the 26th the storm-center had reached the lower Ohio valley, the rain area had extended to the New Jersey and south New England coasts, and severe thunderstorms were reported in Tennessee, Kentucky, and Indiana. During the 27th the center of disturbance moved over the Ohio Valley and thence northeastward over the lower lake region, and thunderstorms were reported in the Atlantic coast states. During the 28th this low area disappeared over the Gulf of Saint Lawrence.

XI.—Was central over Alberta the evening of the 28th, with pressure below 29.50, and during the 29th moved south-eastward over eastern Montana, with a rise in temperature of 10° to 15° in the middle Mississippi valley, rain from the north Pacific coast over Montana, thunderstorms in western Iowa and the Dakotas, and high winds over the middle plateau region. By the evening of the 30th the center of disturbance had advanced to Oklahoma, rain had fallen generally over the Western States and in the Ohio Valley, and severe thunderstorms were reported in Arkansas, southern Ohio, and southern Indiana. During the 31st the low area advanced over Missouri, with pressure below 29.50, the rain area covered the middle and lower Mississippi, lower Missouri, and Ohio valleys, and severe local storms were reported in the lower Missouri and lower Mississippi valleys, Tennessee, and Kentucky.

XII.—Appeared over the southern plateau region on the 26th, and passed thence to New Mexico by the evening of the 27th. During the 28th this low area advanced to the lower Mississippi valley, rain fell from the Ohio Valley to the middle and east Gulf states, and severe wind and rain storms were reported in Georgia. By the morning of the 29th the storm-center had reached the Carolina coast with a marked increase in energy, heavy rain fell over the interior of the Gulf States, and destructive local storms occurred in eastern Tennessee, northern Georgia, and the Carolinas. During the 29th the storm-center moved eastward over the ocean, with west to north gales on the south Atlantic coast.

Tabulated statement showing principal characteristics of areas of high and low pressure.

Barometer.	First observed.			Last observed.			Duration.	Velocity per hour.	Maximum pressure change in 12 hours, maximum abnormal temperature change in 12 hours, and maximum wind velocity.											
	Date.	Lat. N.	Long. W.	Lat. N.	Long. W.				Station.	Rise.	Date.	Station.	Fall.	Date.	Station.	Direction.	Miles per hour.	Date.		
High areas.							Days.	Miles.		Inch.										
I.....	1	41	103	48	93	2.5	13		Shreveport, La.....	.28	1	Buffalo, N. Y.....	16	2	Winnipeg, Man.....	ne.	16	2		
II.....	5	48	99	40	77	2.5	26		Valentine, Nebr.....	.30	5	Miles City, Mont.....	21	4	Chicago, Ill.....	ne.	18	6		
III.....	10	47	122	36	101	1.5	40		Denver, Colo.....	.44	11	do.....	23	10	North Platte, Nebr.....	nw.	35	11		
IV.....	15	52	100	33	83	4.0	22		Sioux City, Iowa.....	.28	15	Pittsburg, Pa.....	17	16	La Crosse, Wis.....	n.	14	16		
V.....	22	45	123	39	82	2.0	54		Grand Haven, Mich.....	.60	23	Chicago, Ill.....	33	23	Amarillo, Tex.....	n.	34	23		
VI.....	23	47	125	47	84	2.5	37		Rockliffe, Ont.....	.40	25	do.....	23	25	Chicago, Ill.....	ne.	38	25		
VII.....	26	45	117	35	83	4.0	23		Hannibal, Mo.....	.26	27	Springfield, Mo.....	20	26	Amarillo, Tex.....	s.	18	29		
Mean.....							2.7	31		.37			22				25			
Low areas.										Fall.			Rise.							
I.....	1	40	88	44	80	0.5	42		Buffalo, N. Y.....	.20	1	Erie, Pa.....	18	1	Saint Louis, Mo.....	w.	30	1		
II.....	1	27	95	46	67	4.0	24		New York, N. Y.....	.64	4	Portland, Me.....	5	4	Sandy Hook, N. J.....	w.	55	4		
III.....	3	53	115	39	77	3.0	36		Kansas City, Mo.....	.35	4	Dodge City, Kans.....	14	3	Valentine, Nebr.....	nw.	40	5		
IV.....	4	49	125	43	75	10.0	10		Calgary, N. W. T.....	.46	7	Winnemucca, Nev.....	23	5	Red Wing, Minn.....	w.	56	11		
V.....	4	33	115	27	98	2.0	25		El Paso, Tex.....	.14	5	Abilene, Tex.....	9	5	El Paso, Tex.....	w.	40	6		
VI.....	12	54	113	47	66	6.5	19		Qu'Appelle, N. W. T.....	.45	12	North Platte, Nebr.....	23	12	Havre, Mont.....	nw.	48	12		
VII.....	17	53	109	50	69	3.5	30		do.....	.48	17	Duluth, Minn.....	22	19	Saint Vincent, Minn.....	s.	72	19		
VIII.....	19	53	131	48	69	4.0	31		Alpena, Mich.....	.42	23	Calgary, N. W. T.....	22	19	Sioux City, Iowa.....	nw.	64	21		
IX.....	23	50	110	51	66	3.0	39		Pueblo, Colo.....	.42	23	Pueblo, Colo.....	29	23	Pierre, S. Dak.†.....	n.	38	24		
X.....	25	35	106	48	71	2.5	37		Montreal, Que.....	.25	27	Kansas City, Mo.....	12	26	Saint Louis, Mo.....	se.	42	26		
XI.....	28	51	113	38	92	3.0	28		Calgary, N. W. T.....	.40	28	Yankton, S. Dak.....	17	28	Salt Lake City, Utah.....	nw.	51	29		
XII.....	28	34	113	35	75	2.5	37		Pueblo, Colo.....	.14	26	Dodge City, Kans.....	10	28	Wilmington, N. C.....	nw.	40	29		
Mean.....							3.7	30		.37			17				50			

* Pikes Peak, Colo., w., 88, 18th.

† Pikes Peak, Colo., w., 89, 23d.

NORTH ATLANTIC STORMS FOR MAY, 1893.

[Pressure in inches and millimeters; wind-force by Beaufort scale.]

The paths of storms that appeared over the west part of the north Atlantic Ocean during May, 1893, are shown on Chart I. These paths have been determined from reports of observations by shipmasters received through the co-operation of the Hydrographic Office, Navy Department, and the "New York Herald Weather Service."

Over the north Atlantic Ocean the normal pressure for May is highest in a small area southwest of the Azores, where it is above 30.20 (767), and is lowest from southern and

eastern Greenland over Scandinavia, where the normal values are below 29.90 (759). In May there is usually an increase of pressure over the north Atlantic Ocean, except in the region of the Cape Verde Islands and over the West Indies and the Caribbean Sea. The greatest increase of pressure, .20 inch or more, occurs over and east of the Banks of Newfoundland. The principal track of May storms is traced from Newfoundland north of east to the region north of the British Isles. Near the 40th meridian a track branches north-

eastward to Iceland, and west of the British Isles a track branches southeastward over the Bay of Biscay. An average of less than one storm per month traverses the ocean from coast to coast in May. The average velocity of storms over the north Atlantic Ocean in May and June, 16 statute miles per hour, is the least noted for the year.

The storms of the current month were generally of small intensity. Probably the severest storm of the month occupied the region north of the Banks of Newfoundland on the 1st, with pressure about 29.20 (742) and westerly gales of force 11 east of the Grand Banks. During the 2d and 3d this storm occupied mid-ocean with pressure falling to about 29.00 (736), after which it apparently decreased in energy. During the 6th and 7th low area II passed northeastward over the Gulf of Saint Lawrence and disappeared north of the Banks of Newfoundland. During the 12th and 13th a storm advanced west of north from the region east of the Bahamas, and united with low area IV near the south New England coast. On the 13th a storm appeared over mid-ocean, where it remained nearly stationary until the 16th, attended by pressure ranging from 29.40 (747) to 29.50 (749) and gales of considerable strength. By the 17th this storm had apparently moved southeastward toward the Bay of Biscay, after which it moved slowly northward over the British Isles, and disappeared over the North Sea by the 21st. The morning of the 15th low area IV was central south of Nova Scotia, from which region it moved eastward to the 50th meridian by the 17th, after which it disappeared. On the 19th low area VI passed northeastward over the Gulf of Saint Lawrence. Moving thence north of the Grand Banks this storm advanced rapidly eastward and disappeared north of the British Isles during the 23d, having traversed the ocean in three days. During the 29th low area X passed north of east over the Gulf of Saint Lawrence. The morning of the 29th low area XII occupied the North Carolina coast. From that position the storm moved rapidly northeastward, and at the close of the month had disappeared north of the 55th parallel.

OCEAN FOG IN MAY.

The limits of fog belts for May, 1893, as determined from reports of shipmasters, are shown on Chart I by dotted shading. More than the usual amount of fog was encountered

east of the 65th meridian. Near the Banks of Newfoundland fog was reported on 22 days; between the 55th and 65th meridians on 16 days; and west of the 65th meridian on 15 days. Compared with the corresponding month of the last 5 years the dates of occurrence of fog near the Grand Banks numbered 5 greater than usual; between the 55th and 65th meridians 3 greater than usual; and west of the 65th meridian 1 less than usual. The fog in the regions referred to and that noted at regular stations of the Weather Bureau on the middle Atlantic and New England coasts generally attended the approach or passage of general storms.

OCEAN ICE IN MAY.

The following table shows the southern and eastern limits of the region within which icebergs or field ice were reported for May during the last 11 years:

Southern limit.			Eastern limit.		
Month.	Lat. N.	Long. W.	Month.	Lat. N.	Long. W.
May, 1883.....	40 30	47 00	May, 1883.....	45 40	45 12
May, 1884.....	41 30	47 30	May, 1884.....	43 30	44 50
May, 1885.....	40 50	45 15	May, 1885.....	42 30	40 10
May, 1886.....	41 35	51 30	May, 1886.....	48 55	45 13
May, 1887.....	39 38	46 00	May, 1887.....	39 38	46 00
May, 1888.....	41 00	46 00	May, 1888.....	41 00	46 00
May, 1889.....	43 07	55 47	May, 1889.....	49 46	36 48
May, 1890.....	40 50	50 28	May, 1890.....	44 12	36 25
May, 1891.....	40 49	49 07	May, 1891.....	45 00	45 00
May, 1892.....	42 14	51 30	May, 1892.....	45 05	41 14
May, 1893.....	41 05	55 55	May, 1893.....	47 02	42 16
Mean.....	41 12	49 54	Mean.....	45 02	42 44

* On the 7th three small pieces of ice were reported in N. 49° 03', W. 33° 40'.

The limits of the region within which icebergs or field ice were reported for May, 1893, are shown on Chart I by ruled shading. The southernmost ice reported, field ice observed on the 14th in the position given, about corresponded with the average southern limit of ice for May, and the easternmost ice reported, 2 medium sized icebergs, noted on the 16th in the position given in the table, was about $\frac{1}{2}$ degree east of the average eastern limit of ice for the month. Ice was reported in great quantities over the southern and northern parts of the Banks of Newfoundland.

TEMPERATURE OF THE AIR (expressed in degrees Fahrenheit).

The distribution of mean temperature over the United States and Canada for May, 1893, is exhibited on Chart II by dotted isotherms. In the table of miscellaneous meteorological data the monthly mean temperature and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for mean temperature and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the temperature is below the normal and subtracting when above. The monthly mean temperature for regular stations of the Weather Bureau represents the mean of the maximum and minimum temperatures.

The mean temperature was highest in the Gila, lower Colorado, and lower Rio Grande valleys, where it was above 80, and the mean readings were above 70 south of a line traced from the South Carolina coast to extreme western Texas. The mean temperature was also above 70 over southern and western Arizona and at points in the central valleys of California. The mean temperature was lowest at mountain stations in central Colorado, where it was below 40; at Anticosti Island, Gulf of Saint Lawrence, the mean reading was

39.8. The mean temperature was below 50 in the Canadian Maritime Provinces, over the northern lake region, in the middle and northern Rocky Mountain regions, at points in central and eastern Oregon, northeast California, and on the north Pacific coast.

DEPARTURES FROM NORMAL TEMPERATURE.

The month was cooler than usual, except in the British Northwest Territory, New Brunswick, Nova Scotia, on the Massachusetts and Virginia coasts, over Florida, at points on the immediate Gulf coast, and generally in Texas, where the mean temperature was slightly above the normal. The greatest departure above the normal, 2.1, was noted at Chatham, N. B. In the British Northwest Territory the departure was 1 to 2 above the normal. The most marked departure below the normal was reported in the valley of the Columbia River, northern Utah, and central Iowa, where it exceeded 4, and the departure above the normal exceeded 2 from the Pacific coast over the central districts to the middle Atlantic states.

The following table shows for certain stations, as reported by voluntary observers, (1) the normal temperature for May for a series of years; (2) the length of record during

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which the observations have been taken, and from which the normal has been computed; (3) the mean temperature for May, 1893; (4) the departure of the current month from the normal; (5) and the extreme monthly mean for May during the period of observation and the years of occurrence:

State and station.	(1) Normal for the month of May.	(2) Length of record.	(3) Mean for May, 1893.	(4) Departure from normal.	(5) Extreme monthly mean for May.			
					Highest.	Year.	Lowest.	Year.
Arizona.	62.1	21	58.9	- 3.2	67.6	1881.	55.6	1884
Fort Apache	80.1	22	78.2	- 1.9	86.8	1875	75.6	1888
Fort Mohave	60.4	22	54.8	- 5.6	68.6	1876	54.3	1892
Whipple Barracks	67.6	11	65.6	- 2.0	74.4	1886	62.9	1882
Arkansas.	67.6	11	65.6	- 2.0	74.4	1886	62.9	1882
Keesee Ferry	54.9	21	50.3	- 4.6	61.8	1881	49.2	1879
California.	65.4	11	64.9	- 0.5	69.0	1885	60.3	1891
Fort Bidwell	59.6	11	59.2	- 0.4	65.6	1886	54.1	1892
Riverside	59.6	11	59.2	- 0.4	65.6	1886	54.1	1892
Colorado.	59.6	11	59.2	- 0.4	65.6	1886	54.1	1892
Las Animas	75.7	11	76.6	+ 0.9	79.2	1884	70.3	1886
Florida.	75.7	11	76.6	+ 0.9	79.2	1884	70.3	1886
Merritts Island	72.7	19	72.0	- 0.7	75.8	1880	69.2	1877
Georgia.	72.7	19	72.0	- 0.7	75.8	1880	69.2	1877
Forsyth	58.5	19	55.1	- 3.4	63.5	1874	53.0	1880
Idaho.	54.7	10	51.8	- 2.9	57.9	1891	51.5	1882
Boise Barracks	60.8	13	58.0	- 2.8	69.4	1881	55.0	1882
Fort Sherman	65.4	14	66.3	+ 0.9	72.1	1886	58.8	1882
Lafayette	56.2	21	52.9	- 3.3	64.1	1881	49.9	1882
Indian Territory.	56.2	21	52.9	- 3.3	64.1	1881	49.9	1882
Fort Supply	63.6	21	59.6	- 4.0	69.5	1887	55.0	1892
Iowa.	66.2	21	63.6	- 2.6	72.0	1880	60.8	1872
Cresco	65.2	10	63.6	- 1.6	71.3	1887	58.4	1892
Kansas.	74.2	10	73.4	- 0.8	75.7	1884	70.4	1891
Eureka Ranch	51.7	23	51.7	0.0	55.9	1887	41.8	1884
Independence	51.7	23	51.7	0.0	55.9	1887	41.8	1884
Salina	61.9	22	61.4	- 0.5	67.0	1880	57.6	1882
Grand Coteau	57.5	16	53.4	- 4.1	66.0	1881	41.3	1882
Maine.	57.5	16	53.4	- 4.1	66.0	1881	41.3	1882
Orono	64.3	10	63.7	- 0.6	69.5	1887	60.1	1882
Maryland.	64.3	10	63.7	- 0.6	69.5	1887	60.1	1882
Cumberland	55.1	11	54.4	- 0.7	58.3	1886	52.2	1888
Michigan.	55.1	11	54.4	- 0.7	58.3	1886	52.2	1888
Kalamazoo	56.4	17	52.8	- 3.6	66.4	1886	48.9	1892
Sedalia	59.4	17	58.0	- 1.4	67.6	1880	52.2	1892
Fort Custer	65.4	21	60.6	- 4.8	71.3	1889	60.5	1873
Montana.	57.0	15	51.3	- 5.7	60.4	1875	51.3	1893
Nebraska.	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Fort Robinson	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Genon (near)	59.8	22	59.8	0.0	64.9	1875	54.2	1892
Nevada.	59.8	22	59.8	0.0	64.9	1875	54.2	1892
Browns	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Carson City	59.8	22	59.8	0.0	64.9	1875	54.2	1892
New Hampshire.	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Hanover	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
New Mexico.	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Port Wingate	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
New York.	54.4	22	54.3	- 0.1	62.0	1880	50.2	1882
Cooperstown	62.7	20	63.6	+ 0.9	67.8	1887	48.0	1881
Plattsburg Barracks	67.3	9	66.7	- 0.6	73.9	1886	64.0	1885
North Carolina.	69.8	21	68.0	- 1.8	75.6	1886	64.7	1885
Lenoir	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Oklahoma.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Fort Reno	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Fort Sill	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Oregon.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Bandon	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Pennsylvania.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Dyberry	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Grampian	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Wellboro	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
South Carolina.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Statesburg	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
South Dakota.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Fort Sully	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Texas.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Austin	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Silver Falls	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Utah.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Terrace	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Vermont.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Stratford	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Virginia.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Dale Enterprise	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Washington.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Fort Townsend	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
West Virginia.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Parkersburg	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Wisconsin.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Embarras	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Madison	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Wyoming.	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893
Fort Washakie	54.0	9	50.7	- 3.3	55.8	1891	50.7	1893

TEMPERATURE, JANUARY TO MAY, 1893.

For the period January 1 to May 31, 1893, the mean temperature averaged 3 to 4 below the normal in the upper Mis-

issippi valley and over the middle and northern plateau regions, and was 2 to 3 below the normal in the middle Atlantic and New England states, the Lake region, the Missouri Valley, on the northeast and middle-eastern slopes of the Rocky Mountains, and over the north and middle Pacific coasts. In the south Atlantic and east Gulf states, at Key West, Fla., over the southern plateau region, and on the south Pacific coast the mean temperature was about 1 below the normal. On the southeast slope of the Rocky Mountains the temperature averaged 1 to 2 above the normal, and in the west Gulf states and the extreme northwest it averaged about 1 above the normal for the period named.

YEARS OF HIGHEST MEAN TEMPERATURE FOR MAY.

The highest mean temperature for May occurred in Washington in 1889; in Oregon in 1888; over the southern plateau region and on the southeast slope of the Rocky Mountains in 1886; in the Sacramento Valley and on the south Pacific coast in 1885; in the upper and lower Mississippi and middle Ohio valleys in 1881; and in the middle Atlantic and New England states, the Lake region, a great part of Kentucky and Tennessee, and in Arkansas and the lower Missouri valley in 1880.

YEARS OF LOWEST MEAN TEMPERATURE FOR MAY.

At Dale Enterprise, Va., Lexington, Ky., Carson City, Nev., Eureka, Cal., Bandon and Portland, Oregon, and Walla Walla, Fort Townsend, Fort Canby, and Neah Bay, Wash., the mean temperature for the current month was the highest noted during the respective periods of observation. The lowest mean temperature for May occurred generally from the middle and lower Missouri and Red River of the North valleys over the northern plateau region and eastern parts of the middle and southern plateau regions in 1892; in the middle Atlantic and New England states, the eastern lake region, and in Tennessee and the Ohio and middle Mississippi valleys in 1882.

MAXIMUM TEMPERATURE.

The highest temperature reported by a regular station of the Weather Bureau for May, 1893, was 104, at Yuma, Ariz., on the 31st, and a reading of 103 was noted at Abilene, Tex., on the 30th. The maximum temperature rose above 90 over the Florida Peninsula, the interior of the Gulf States, and at points on the northeast and southeast slopes of the Rocky Mountains. At Miles City, Mont., a maximum of 98 was registered on the 17th. The maximum readings were also above 90 in the central valleys of California. The lowest maximum temperature was reported along the immediate Pacific coast north of the 40th parallel, where it was below 70, and the maximum values were below 80 on the east Maine, southeast New England, and the New Jersey coasts.

MINIMUM TEMPERATURE.

At Dodge City and Concordia, Kans., and Cheyenne, Wyo., the minimum temperature noted on the 1st and 2d was the lowest reported for May during the respective periods of observation.

The lowest temperature reported by a regular station of the Weather Bureau for May, 1893, was 20, at Cheyenne, Wyo., on the 1st. The minimum values were below 30 in the Lake Superior region, the middle and northern Rocky Mountain regions, and in southern Idaho, eastern Oregon, and northern Nevada. The minimum temperature was below 40 north of a line traced from the south New England coast west-southwest to southwestern New Mexico, thence northwestward over northeastern California, and thence inside the coast line to northwestern Washington. The highest minimum temperature, 70, was reported at Key West, Fla.; the minimum values were above 60 in extreme southern Louisiana, and were above 50 along the south Atlantic coast, over southern

portions of the Gulf States, in the Mississippi Valley to Tennessee, and in the lower Colorado valley.

LIMITS OF FREEZING WEATHER.

The southern limit of freezing weather is shown on Chart V by a line traced over northern New England and from northern Lower Michigan to southern Minnesota and thence to southern New Mexico. The western limit of freezing weather is shown by this line continued northwestward to the Sierra Nevada Mountain range in eastern California, thence over central Oregon, and thence over the northern Rocky Mountain region.

RANGES OF TEMPERATURE.

The greatest daily range of temperature is shown in the table of miscellaneous meteorological data. The greatest monthly range of temperature, 72, was reported at Dodge City, Kans.; at Miles City, Mont., the monthly range was 70. From the Rocky Mountain region the monthly ranges decreased eastward to less than 40 at points along the immediate Atlantic coast, southeastward to 20 over extreme southern Florida and extreme southern Louisiana, and to less than 30 along the Texas coast, and westward to less than 30 along the immediate middle and north Pacific coasts.

PERIODS OF LOW TEMPERATURE.

The month opened with temperature below freezing in the middle and northern Rocky Mountain regions. During the 2d a decided fall in temperature occurred in the lower lake region and the upper Ohio valley, and on the 3d a fall in temperature of 10 to 20 was noted in the middle Atlantic

states. A cool wave advanced from the northeast slope of the Rocky Mountains to New England from the 9th to the 13th, attended by a fall in temperature of 10 to 20. On the 22d the temperature fell 20 to 40 from the Lake region to northwestern Texas. On the 23d a fall in temperature of 20 to 30 occurred in the Lake region and Ohio Valley, and on the 24th the temperature fell 10 to 20 in the middle Atlantic and New England states.

FROST.

The frost line extended to north parts of the south Atlantic and east Gulf states on the 4th, 17th, 18th, and 19th. Frost was reported in central Arkansas on the 2d, 3d, and 17th. On the 1st heavy frost injured fruit and vegetables about Dodge City, Kans. Heavy frost damaged tender plants on low ground about Montrose, Colo., on the 6th. Wheat and oats were injured about Stillwater, Okla., on the 14th. On the 18th heavy frost nipped fruit buds and blossoms at Meadow Valley, Cal., and heavy frost was reported at Green Hill, Ohio. Heavy frost was reported in Washoe, Carson, and Eagle valleys, Nev., on the 21st. On the 22d heavy frost killed vegetation on low ground about Tehachapi, Cal. On the 21st frost caused considerable damage in parts of Kansas and Nebraska. Tender vegetation about Vernonia, Oregon, was nipped by frost on the 24th. On the 25th heavy frost was reported at Newbridge, Oregon, and Bear Valley, S. Dak.; at Lander, Wyo., the temperature fell to 27. Heavy frost was reported at Salt Lake City, Utah, on the 26th. Grape blossoms on low ground about Sonoma, Cal., were injured by frost on the 29th.

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for May, 1893, as determined from reports of more than 2,000 stations, is exhibited on Chart III. In the table of miscellaneous meteorological data the total precipitation and the departure from the normal are given for regular stations of the Weather Bureau. The figures opposite the names of the geographical districts in the columns for precipitation and departure from the normal show, respectively, the averages for the several districts. The normal for any district may be found by adding the departure to the current mean when the precipitation is below the normal and subtracting when above.

The normal precipitation for May is greatest in areas in eastern Texas and western Missouri, where it exceeds 6.00. It exceeds 4.00 over the greater part of the region extending from the middle and lower Missouri valleys to the middle and west coasts of the Gulf of Mexico, generally in Tennessee and North Carolina, and along the South Carolina and east Florida coasts. The normal amount is also in excess of 4.00 at points on the north Pacific coast, and in adjoining parts of southwestern Montana and northwestern Wyoming. In districts east of the Rocky Mountains other than those named the normal precipitation generally ranges from 2.00 to 4.00. Over the greater part of the plateau region and on the Pacific coast south of the 40th parallel the precipitation for May is usually less than 1.00, and over the west parts of the middle and southern plateau regions and southern California it is less than 0.50.

In May, 1893, the greatest monthly precipitation reported was 19.88 at Lonohe, Ark. The monthly precipitation exceeded 10.00 generally over Arkansas, central and extreme southwestern Tennessee, and in areas in the interior of the middle Gulf states. The monthly rainfall was in excess of

6.00 near the middle New England coast, in an area extending from Virginia over Missouri, Arkansas, and eastern Texas, and on the extreme north Pacific coast. In California south of the Sacramento Valley, and thence over the greater part of Nevada and southwestern Utah, the monthly precipitation was less than 0.25. Less than 1.00 fell generally over the middle and southern plateau regions, on the middle and south Pacific coasts, and in the region north of North Dakota and eastern Montana.

DEPARTURE FROM NORMAL PRECIPITATION.

More than the usual amount of precipitation was reported in the lower and middle Mississippi and Ohio valleys, the lower lake region, in the middle Atlantic and New England states (except in eastern Maine), over the southern plateau region, and from the north Pacific coast over the northeast slope of the Rocky Mountains; elsewhere the precipitation was deficient. The greatest excess in precipitation was noted in an area covering eastern Arkansas and adjoining parts of Tennessee and Mississippi, where the monthly amount was 6.00 to 8.00 greater than usual. In western Maine, northeastern Ohio, and northwestern Pennsylvania the monthly amount was 4.00 to 5.00 in excess of the May average. The greatest deficiency in precipitation was reported at Eastport, Me., over extreme southern Louisiana, at Dodge City, Kans., Des Moines, Iowa, and Yankton and Rapid City, S. Dak., where the monthly amount was 2.00 to 3.00 less than usual.

Considered by districts the average percentage of the normal in districts where the monthly precipitation was in excess was about as follows: southern plateau, 330; northern plateau, 176; Ohio Valley and Tennessee, 162; north Pacific coast, 147; middle Atlantic states, 140; New England, 138; lower lake region, 136; west Gulf states, 127; east Gulf states, 125; southeast slope of the Rocky Mountains, 123; and south Atlantic states, 110. In districts

where the precipitation was deficient the percentage of the normal was about as follows: south Pacific coast, 58; Key West, Fla., 65; middle-eastern slope of the Rocky Mountains, 67; middle plateau region, 72; middle Pacific coast, 73; Missouri Valley, 78; upper lake region, 82. On the northeast slope of the Rocky Mountains, in the extreme northwest, and in the upper Mississippi valley the monthly precipitation averaged about normal.

DEPARTURE FROM NORMAL PRECIPITATION.

The following table shows for certain stations, as reported by voluntary observers, (1) the average precipitation for May for a series of years; (2) the length of record during which the observations have been taken and from which the average has been computed; (3) the total precipitation for May, 1893; (4) the departure of the current month from the average; (5) and the extremes for May during the period of observation and the years of occurrence:

State and station.	(1) Average for the month of May.	(2) Length of record.	(3) Total for May, 1893.	(4) Departure from average.	(5) Extremes for May.			
					Greatest.		Least.	
					Am't.	Year.	Am't.	Year.
<i>Arizona.</i>	<i>Inches.</i>	<i>Years.</i>	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>		<i>Inches.</i>	
Fort Apache	0.46	17	2.18	+ 1.72	2.18	1893	0.00	*
Fort Mohave	0.16	23	0.26	+ 0.10	1.20	1873	0.00	*
Whipple Barracks	0.59	22	0.88	+ 0.29	1.83	1877	0.00	*
<i>Arkansas.</i>								
Keesees Ferry	6.16	11	5.27	- 0.89	10.56	1882	1.97	1891
<i>California.</i>								
Fort Bidwell	1.36	22	1.66	+ 0.30	4.66	1877	0.40	1884
Riverside	0.42	12	0.00	- 0.42	1.99	1884	0.00	1886, 1893
<i>Colorado.</i>								
Las Animas	1.98	11	0.09	- 1.89	5.06	1882	0.09	1893
<i>Florida.</i>								
Merritts Island	3.98	15	2.45	- 1.53	11.58	1890	0.88	1886
<i>Georgia.</i>								
Forsyth	3.11	19	6.24	+ 3.13	7.31	1890	0.45	1877
<i>Idaho.</i>								
Boise Barracks	1.41	19	1.50	+ 0.09	3.51	1892	0.07	1881
Fort Sherman	1.68	10	3.75	+ 2.07	3.75	1893	0.66	1884
<i>Indiana.</i>								
Lafayette	4.95	13	3.03	- 1.92	8.79	1892	1.98	1891
<i>Indian Territory.</i>								
Fort Supply	3.71	14	1.43	- 2.28	7.54	1883	0.06	1886
<i>Iowa.</i>								
Cresco	3.50	21	2.79	- 0.71	7.59	1880	0.76	1874
<i>Kansas.</i>								
Independence	4.65	21	5.16	+ 0.51	10.64	1892	0.92	1879
Salina	4.10	10			8.92	1889	0.27	1888
<i>Louisiana.</i>								
Grand Coteau	4.94	10	8.08	+ 3.14	14.03	1884	0.21	1889
<i>Maine.</i>								
Orono	3.49	23			10.52	1890	1.25	1887
<i>Maryland.</i>								
Cumberland	3.23	21	4.37	+ 1.14	7.13	1890	0.30	1875
<i>Michigan.</i>								
Kalamazoo	4.24	17	4.42	+ 0.18	7.04	1892	1.44	1885
<i>Missouri.</i>								
Sedalia	5.02	14	7.09	+ 2.07	10.47	1892	0.97	1879
<i>Montana.</i>								
Fort Custer	2.04	12	7.29	+ 5.25	7.29	1893	0.47	1885
<i>Nebraska.</i>								
Fort Robinson	3.16	9	0.72	- 2.44	6.39	1888	0.72	1893
Genoa (near)	4.19	17	5.11	+ 0.92	7.80	1877	0.83	1880
<i>Nevada.</i>								
Browns	0.29	21	0.00	- 0.29	1.10	1887	0.00	*
Carson City	0.63	15	0.37	- 0.25	2.50	1891	0.04	1880
<i>New Hampshire.</i>								
Hanover	3.25	22	3.03	- 0.16	6.26	1892	0.81	1879
<i>New Mexico.</i>								
Fort Wingate	0.48	21	1.25	+ 0.77	3.00	1872	0.00	1879
<i>New York.</i>								
Cooperstown	3.53	22	6.74	+ 3.21	8.84	1890	0.36	1879
Plattsburg Barracks	2.50	22	3.26	+ 0.76	5.00	1890	0.18	1879
<i>North Carolina.</i>								
Lenoir	4.75	21	5.90	+ 1.15	11.50	1873	1.60	1881, 1883
<i>Oklahoma.</i>								
Fort Reno	4.21	10	1.88	- 2.33	9.33	1885	0.31	1886
Fort Sill	4.82	21	3.50	- 1.32	9.74	1880	0.07	1886
<i>Oregon.</i>								
Bandon	3.45	15	4.28	+ 0.83	7.79	1879	0.23	1890
<i>Pennsylvania.</i>								
Dyberry	3.13	20	6.21	+ 3.08	6.21	1893	0.36	1875
Grampian	4.33	21	5.47	+ 1.14	11.60	1889	1.29	1891
Wellsboro	5.17	14	6.58	+ 1.41	9.36	1884	1.30	1891
<i>South Carolina.</i>								
Statesburg	3.61	12	3.91	+ 0.30	6.68	1888	1.24	1882
<i>South Dakota.</i>								
Fort Sully	2.57	22	4.00	+ 1.43	5.05	1874	0.36	1884
<i>Texas.</i>								
Austin	4.12	18			8.40	1885	T.	1886
Silver Falls	1.60	7	1.60	0.00	4.25	1897	0.01	1886
<i>Utah.</i>								
Terrace	0.40	21	0.00	- 0.40	1.20	1891	0.00	*

Departures from average precipitation—Continued.

State and station.	(1) Average for the month of May.	(2) Length of record.	(3) Total for May, 1893.	(4) Departure from average.	(5) Extremes for May.			
					Greatest.		Least.	
					Am't.	Year.	Am't.	Year.
<i>Vermont.</i>	<i>Inches.</i>	<i>Years.</i>	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>		<i>Inches.</i>	
Stratford	3.44	20	2.58	- 0.86	7.60	1890	0.40	1877
<i>Virginia.</i>								
Dale Enterprise	5.41	13	5.63	+ 0.22	12.66	1886	1.06	1880
<i>Washington.</i>								
Fort Townsend	1.91	19	3.71	+ 1.80	7.81	1875	0.30	1891
<i>West Virginia.</i>								
Parkersburg	3.59	8	5.87	+ 2.28	5.87	1893	1.05	1885
<i>Wisconsin.</i>								
Embarrass	4.77	22			9.65	1892	0.25	1891
Madison	3.73	22	2.27	- 1.46	6.98	1883, 1892	1.02	1877
<i>Wyoming.</i>								
Fort Washakie	2.71	10	1.89	- 0.82	5.77	1882	0.41	1887

* Frequently.

PRECIPITATION, JANUARY TO MAY.

For the period January 1 to May 31, 1893, inclusive, the precipitation averaged about normal in the middle Atlantic states, the Ohio Valley and Tennessee, the upper lake region, the Missouri Valley, on the northeast slope of the Rocky Mountains, and along the middle Pacific coast. Over the northern plateau region, and along the south Pacific coast the precipitation was three-tenths to four-tenths greater than usual, and in the lower lake region, the upper Mississippi valley, the extreme northwest, and the southern and middle plateau regions, it was one-tenth to two-tenths greater than usual. On the middle-eastern slope of the Rocky Mountains about one-half of the usual amount of precipitation was noted, and in the south Atlantic and Gulf states, at Key West, Fla., and on the southeast slope of the Rocky Mountains the precipitation was six-tenths to eight-tenths of the average amount for the period named.

YEARS OF GREATEST PRECIPITATION FOR MAY.

At Portland, Me., Dyberry, Pa., Parkersburg, W. Va., Cleveland, Ohio, Chattanooga and Memphis, Tenn., El Paso, Tex., Fort Apache, Ariz., Fort Custer and Helena, Mont., Fort Sherman, Idaho, and Spokane and Neah Bay, Wash., the precipitation for the current month was the greatest ever reported for May.

YEARS OF LEAST PRECIPITATION FOR MAY.

At Las Animas, Colo., and Fort Robinson, Nebr., the precipitation for the current month was the least ever reported for May.

The least precipitation for May occurred on the north Pacific coast in 1888; from east Texas and Louisiana northward to the northern plateau region in 1886; in the northern and eastern lake region in 1877; and from the lower Mississippi valley to the lower Missouri valley in 1874.

EXCESSIVE PRECIPITATION.

The following tables show, by states, the number of stations reporting monthly precipitation to equal or exceed 10.00; precipitation to equal or exceed 2.50 in 24 hours; and precipitation to equal or exceed 1.00 in 1 hour in May, 1893:

Monthly precipitation to equal or exceed 10.00.

State.	Number of stations.	State.	Number of stations.
Arkansas	24	Ohio	5
Alabama	8	Louisiana	5
Mississippi	8	Missouri	2
Tennessee	6	Kentucky	1

Precipitation to equal or exceed 2.50 in 24 hours.

State.	Number of stations.	Dates.	State.	Number of stations.	Dates.
Missouri	50	1, 25, 26-28, 28, 30-31, 31.	Pennsylvania	10	3-4, 4, 16, 16-17.
Arkansas	24	*6, 7, 14, 26-27, 26-28, 27-28, 28, 29-30, 30, 30-31, 31.	New York	8	3-4, 15-16, 31.
Louisiana	23	†1, 1-2, 2, 2-3, 3, 3-4, 4, 14, 14-15, 29.	Nebraska	6	10, 22, 30, 30-31.
Alabama	30	1, 1-2, 2, 2-3, 3, 6, 6-7, 7-8, 8, 9, 28-29, 31.	Florida	6	15, 15-16, 16-17.
Massachusetts	17	3-4, 4.	Kansas	6	25, 25-26, 31.
Mississippi	17	2, 2-3, 6, 6-7, 7, 11, 26-28, 27.	Virginia	5	2-3, 3, 3-4.
Ohio	16	1, 15-17, 16, 16-17, 16-18, 17, 17-18, 30-31.	South Dakota	4	21.
Connecticut	15	3-4, 4, 15-16, 16-17.	New Jersey	4	3, 3-4.
Tennessee	14	2-3, 3, 26-27, 26-28, 27, 31.	Maryland	4	2-3, 3-4.
North Carolina	13	2-3, 3, 3-4, 27-28.	Georgia	3	6, 27, 28-29.
Texas	13	1, 6, 6-7, 7, 7-8, 10-11, 11-12, 14.	North Dakota	2	18-19.
Illinois	11	25-26.	Indiana	2	1.
			Iowa	2	10-11, 21-22.
			Kentucky	2	31.
			Maine	2	13-14, 17.
			South Carolina	1	1-2.
			New Hampshire	1	3-4.
			Colorado	1	30.
			Dist. of Columbia	1	3-4.
			Rhode Island	1	3-4.
			Indian Territory	1	27-28.
			Michigan	1	11.
			Montana	1	18-19.

*April 30, 1893.

†April 30-May 1, 1893.

Precipitation to equal or exceed 1.00 in 1 hour.

Alabama	6	2, 6, 8, 27.	Nebraska	2	30.
Mississippi	6	2, 6, 8, 14, 27, 31.	Pennsylvania	2	20, 23.
Texas	6	6, 10, 28.	Tennessee	2	27, 31.
Kansas	5	10, 25, 30.	Kentucky	1	5.
Georgia	5	8, 23, 25, 27, 28, 29.	Michigan	1	23.
Arkansas	4	6, 14, 30.	North Carolina	1	3.
Florida	4	9, 24, 25, 30.	South Carolina	1	2.
Missouri	4	4, 11, 26.	South Dakota	1	21.
Colorado	2	8, 30.	Virginia	1	2.
Indiana	2	26, 30.			

Table of excessive precipitation, May, 1893.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
<i>Alabama.</i>						
Brewton.....	<i>Inches.</i>	<i>Inches.</i>		<i>Inches</i>	<i>h. m.</i>	
Do.....	2.50	9		1.25	1 00	2
Claiborne Landing.....	4.00	2		1.00	1 00	6
Do.....	2.50	6-7		2.00	2 00	2
Demopolis.....	2.95	2-3				
Florence b.....	10.28	3-31				
Fort Deposit.....	3.35	1-2				
Gadsden.....	2.52	28-29				
Greensboro.....	11.85	5.67	1			
Healing Springs.....	11.47	2.55	2			
Do.....	2.90	6				
Livingston b.....	2.52	1-2				
Maple Grove.....	2.61	28-29				
Marion.....	10.80					
Maysville.....	2.60	2				
Mobile.....	2.70	2-3		1.60	1 00	2
Montgomery.....				1.19	1 00	8
Mount Willing.....	5.31	1-2				
Newton.....				1.45	1 00	6
Oxanna.....	2.87	2-3				
Pushmataha.....	10.27	2.58	0			
Selma.....	2.78	6				
Union.....	13.05	2.70	3	1.10	1 00	27
Do.....	4.40	7-8				
Union Springs a.....	3.50	8				
Union Springs b.....	10.68					
Uniontown.....	10.88					
Warrior.....	2.90	1-2				
Do.....	2.88	28-29				
<i>Arkansas.</i>						
Arkadelphia.....	10.20					
Ashdown.....	10.36					
Bee Branch.....	11.59	6.25	27-28			
Brinkley.....	15.20	7.65	26-28			
Do.....		3.00	30-31			
Camden a.....	10.80	3.31	*			
Do.....		3.48	28			
Camden b.....		2.83	28			
Conway.....	11.32	3.98	27-28			
Do.....		3.96	30-31			
Dallas.....	10.00					
Dardanelle.....	13.25	4.95	31			
Fayetteville.....	10.96	4.97	30-31			
Forrest.....	15.44	6.70	26-28			
Do.....		4.60	30-31			
Fort Smith.....	2.66	27-28		2.02	0 50	6
Fulton.....	10.18	2.70	28			
Helena a.....	16.68	10.80	27-28			
Helena b.....	14.75	9.85	26-28			

Table of excessive precipitation—Continued.

State and station.	Monthly rainfall to inches, or more.	Rainfall 2.50 inches, or more, in 24 hours.		Rainfall of 1 inch, or more, in one hour.		
		Amt.	Day.	Amt.	Time.	Day.
Arkansas—Continued.						
Hot Springs	10.10	2.75	7			
Do.		2.65	28			
Jonesboro	10.03	3.81	30-31	1.83	1 00	6
Keesees Ferry						
Little Rock	13.25	5.37	26-28			
Do.		2.78	30-31			
Lonoke	19.88	7.88	27-28			
Do.		4.25	30-31			
Madding	10.00	2.50	6			
Do.		3.50	14	3.50	1 30	14
Mount Nebo	11.11	4.46	29-30			
Osceola	15.16	3.60	26-27			
Do.		7.04	31			
Prescott	10.07					
Russellville	11.46					
Searcy	10.77	3.55	27-28			
Stuttgart		2.92	26-27			
Washington b	11.00	3.42	30	3.42	3 30	30
Wiggs		2.50	7			
Colorado.						
Saint Cloud		3.50	30	1.00	1 00	8
Do.				3.50	3 30	30
Connecticut.						
Canton		3.22	4			
Colchester		3.60	3-4			
Hartford b		2.80	3-4			
Lake Konomoc		2.66	4			
Lebanon		3.10	3-4			
Do.		2.93	16-17			
Middletown		2.70	4			
New Hartford b.		2.70	3-4			
New Haven		3.10	3-4			
North Franklin		3.47	3-4			
Do.		2.98	15-16			
Norwalk		3.26	3-4			
Stevenson		3.00	3-4			
Storrs		2.88	3-4			
Voluntown		2.77	3-4			
Wallingford		3.45	3-4			
West Simsbury		3.00	3-4			
District of Columbia.						
Washington		2.73	3-4			
Florida.						
Fort Meade		3.56	16			
Gainesville		2.75	16			
Homeland		3.30	16-17			
Jacksonville				1.70	0 51	24
Jupiter				1.15	0 15	30
Manatee		3.10	15-16			
Plant City				1.90	0 35	9
Do.				1.70	0 40	25
Saint Andrews Bay		3.82	15			
Saint Francis Barracks		3.23	15-16			
Titusville				1.73	1 30	25
Georgia.						
Alapaha				1.40	0 50	25
Do.				1.32	1 20	27
Atlanta				1.17	1 00	29
Fort Gaines		2.91	6			
Lumpkin				1.10	0 30	8
Macon b.				1.10	1 00	28
Reynolds		2.80	27			
Thomasville				1.03	0 50	23
Whitesburg		2.78	28-29			
Illinois.						
Atwood		5.08	25-26			
Beardstown		3.75	25-26			
Carlinville		2.50	25-26			
Carlyle		2.54	25-26			
Greenville		3.35	25-26			
Griggsville		2.90	25-26			
Mascoutah		3.00	25-26			
Quincy		5.25	25-26			
Rushville		4.19	25-26			
Springfield		4.28	25-26			
White Hall		2.92	25-26			
Indiana.						
Connersville				1.23	1 00	30
Huntingburg		4.00	1			
Laconia				1.40	1 00	26
Marengo		3.00	1			
Indian Territory.						
Lehigh		2.75	27-28			
Iowa.						
Carroll		2.63	21-22			
Glenwood		3.48	10-11			
Kansas.						
Concordia				1.32	0 24	30
Independence				1.18	1 10	30
Leavenworth		2.73	25-26			
Manhattan a		2.70	25-26			
Manhattan b		2.58	25-26			
Mount Hope		2.84	25	2.25	1 00	25
Pauline		2.75	31			
Plainville				1.50	1 00	10
Wamego		3.60	25-26	1.10	1 00	25
Kentucky.						
Bowling Green		3.78	31			
Franklin	10.41	5.12	31			
Harrodsburg				1.25	0 45	5

Excessive daily precipitation (24 hours)—Continued.

State.	No. years noted.	State.	No. years noted.
Vermont	1	New Mexico	0
New Hampshire	1	Utah	0
Arizona	0	Washington	0
Idaho	0	West Virginia	0
Nevada	0	Wyoming	0

Excessive hourly precipitation.

Kansas	17	Missouri	3
Texas	13	Massachusetts	2
Iowa	11	Michigan	2
Nebraska	10	Minnesota	2
Florida	9	Arizona	2
North Carolina	9	Montana	1
South Carolina	9	Oregon	1
Pennsylvania	7	Vermont	1
Tennessee	7	California	0
Georgia	7	Connecticut	0
Maryland	6	Delaware	0
Ohio	6	District of Columbia	0
Indiana	5	Idaho	0
Illinois	4	Maine	0
The Dakotas	4	Nevada	0
Wisconsin	4	New Hampshire	0
Alabama	4	New Jersey	0
Arkansas	4	New Mexico	0
Mississippi	4	New York	0
Virginia	4	Rhode Island	0
Indian Territory	3	Utah	0
Louisiana	3	Washington	0
Colorado	3	West Virginia	0
Kentucky	3	Wyoming	0

The following tables give exceptionally heavy monthly, daily, and hourly precipitation reported for May during the last 23 years:

Monthly.

Station and state.	Am't.	Year.	Station and state.	Am't.	Year.
Melissa, Tex.	34.85	1881	Melissa, Tex.	21.95	1873
Weatherford, Tex.	27.94	1884			

Daily (24 hours).

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
Helena, Ark. a	10.80	27-28, 1893	Simpsonville, S.C.	6.02	25-26, 1890
Wheeler, Ohio	10.47	16-18, 1893	Glenwood, Iowa	6.00	29, 1878
Columbus, Ga.	9.92	22, 1880	West Almond, N.Y.	6.00	31, 1889
Helena, Ark. b	9.85	26-28, 1893	Selins Grove, Pa.	6.00	31, 1889
Fort Wallace, Kans.	9.30	22-23, 1874	Steffenville, Mo.	6.00	25-26, 1893
Durham, Ark.	9.28	1, 1876	Greenville, Ala.	5.85	30, 1885
New Frankfort, Mo.	9.00	28-29, 1889	Geneva, Nebr.	5.85	30-31, 1893
Grampian, Pa.	8.37	31, 1889	Emporium, Pa.	5.85	31, 1889
Clarksville, Tex.	8.25	10-11, 1874	Tuscarora, Pa.	5.81	30-31, 1889
Hillhouse, Ohio	8.06	16-17, 1893	Waynesboro, Miss. a	5.80	6, 1893
Weatherford, Tex.	8.00	21, 1884	Colebrook, Ohio	5.76	15-17, 1893
Blue Knob, Pa.	7.90	30-31, 1889	Batesville, Miss.	5.75	27, 1893
Lonoke, Ark.	7.88	27-28, 1893	New Boston, Mo.	5.75	25-26, 1893
Brinkley, Ark.	7.65	26-28, 1893	Wellsville, Mo.	5.73	25-26, 1893
Oskola, Miss.	7.50	4, 1887	Dadeville, Mo.	5.72	28, 1893
Shreveport, La.	7.37	6, 1876	Ashland, Va.	5.70	3, 1893
Memphis, Tenn.	7.36	26-28, 1893	Greensburg, Ala.	5.67	1, 1893
McConnellsburg, Pa.	7.08	31, 1889	Mobile, Ala.	5.64	29, 1883
Oseola, Ark.	7.04	31, 1893	Gainesville, Tex.	5.61	16-17, 1893
Columbia, S.C.	6.90	20, 1886	Harbor, Ohio	5.60	16-17, 1893
Hypoluxo, Fla.	6.89	29-30, 1890	Upper Mattole, Cal.	5.59	5-6, 1891
College Station, Tex.	6.85	10-11, 1893	Mayport, Fla.	5.53	3-4, 1880
Charlesville, Pa.	6.71	31, 1889	Spartanburg, S.C.	5.53	19, 1886
Denver, Colo.	6.70	21-22, 1876	Hot Springs, Ark.	5.52	27-28, 1888
Forrest, Ark.	6.70	26-28, 1893	Mexico, Mo.	5.52	25-26, 1893
Strongsville, Ohio	6.67	16-17, 1893	Ellsworth, N.C.	5.50	22, 1880
Saint Marys, Ga.	6.60	27, 1887	Clarksville, Tex.	5.50	21, 1878
Petersburg, Pa.	6.60	31, 1889	Cuero, Tex.	5.50	29, 1887
Hallettsville, Tex.	6.54	16, 1892	Houston, Tex.	5.50	3, 1884
Boerne, Tex.	6.52	28, 1880	Friendship, N.Y.	5.50	30-31, 1889
Lynnville, Tenn.	6.51	31, 1893	Smethport, Pa.	5.50	31, 1889
Charleston, S.C.	6.38	1-2, 1883	Alum Springs, Va.	5.50	30-31, 1889
Little Rock, Ark.	6.33	9-10, 1882	Shreveport, La.	5.50	31, 1889
Tallahassee, Fla.	6.30	20, 1888	Osage, Iowa	5.45	21, 1884
Bolar, Va.	6.25	30-31, 1889	Coudersport, Pa.	5.40	23-24, 1880
Bee Branch, Ark.	6.25	27-28, 1893	Barnegat, N.J.	5.39	31, 1878
Bissella, Ohio	6.23	16-17, 1893	Mountain Spring, Tex.	5.38	31, 1892
Grand Coteau, La.	6.20	1, 1893	Little Rock, Ark.	5.37	26-28, 1893
Harrisburg, Pa.	6.16	31, 1889	Vicksburg, Miss.	5.36	23-24, 1872
Fort Randall, S. Dak.	6.13	15, 1872	Mount Willing, Ala.	5.31	1-2, 1893
North Royalton, Ohio	6.12	17-18, 1893	Quincy, Ill.	5.27	2-3, 1893
Holly Springs, Miss.	6.10	26-28, 1893	Frederick, Md.	5.25	25-26, 1893
Live Oak, Fla.	6.08	4-5, 1890	Galveston, Tex.	5.24	27-28, 1874
Wauseon, Ohio	6.04	29-30, 1889	Dale Enterprise, Va.	5.24	30-31, 1889
Weldon, N.C.	6.03	10, 1887			

Excessive daily precipitation—Continued.

Station and state.	Amount.	Date.	Station and state.	Amount.	Date.
Luling, La.	Inches.		Lumberton, N.C.	Inches.	
Eagles Mere, Pa.	5.20	24, 1890	Caddo Peak, Tex.	5.07	26-27, 1890
Fort Snelling, Minn.	5.17	31, 1889	Ellinwood, Kans.	5.05	1, 1890
Anderson, S.C.	5.12	31, 1877	Nunnally, Tenn.	5.03	17-18, 1877
Helena, Ark.	5.12	19, 1886	Council Bluffs, Iowa	5.02	31, 1893
Hollidaysburg, Pa.	5.12	10, 1882	Emory Grove, Md.	5.00	31, 1875
Franklin, Ky.	5.12	31, 1889	Fort Niobrara, Nebr.	5.00	15, 1879
New Hartford, Mo.	5.11	25-26, 1893	Palestine, Tex.	5.00	26, 1888
Centerville, Mo.	5.10	13-14, 1892	Santee, Nebr.	5.00	2-3, 1884
Fort Hancock, Tex.	5.09	11-12, 1893	Columbia, La.	5.00	27, 1875
Atwood, Ill.	5.08	25-26, 1893			13, 1890

One hour and less.

Station and state.	Amount.	Time.	Date.
Indianapolis, Ind.	Inches.	A. M.	
Jacksonville, Fla.	0.55	0.05	31, 1892
Jupiter, Fla.	0.50	0.05	24, 1893
Detroit, Mich.	0.50	0.05	7, 1891
Dodge City, Kans.	0.48	0.05	16, 1889
Jupiter, Fla.	0.47	0.05	30, 1892
Kansas City, Mo.	0.45	0.05	30, 1893
Galveston, Tex.	0.45	0.05	5, 1892
Norfolk, Va.	0.43	0.05	5, 1890
Jupiter, Fla.	0.37	0.05	21, 1892
Savannah, Ga.	0.35	0.05	4, 1890
Do	0.35	0.05	27, 1891
Cleveland, Ohio	0.35	0.05	3, 1890
Do	0.32	0.05	31, 1893
New Orleans, La.	0.32	0.05	1, 1892
Jupiter, Fla.	0.30	0.05	19, 1890
Memphis, Tenn.	0.30	0.05	31, 1892
Do	0.30	0.05	27, 1893
Tampa, Fla.	0.30	0.05	31, 1893
Kansas City, Mo.	0.30	0.05	16, 1893
Memphis, Tenn.	0.30	0.05	9, 1892
San Francisco, Cal.	0.30	0.05	31, 1891
Chicago, Ill.	0.28	0.05	31, 1892
Saint Louis, Mo.	0.26	0.05	26, 1893
Jacksonville, Fla.	0.27	0.05	25, 1893
Norfolk, Va.	0.27	0.05	26, 1891
Detroit, Mich.	0.25	0.05	5, 1892
Saint Louis, Mo.	0.25	0.05	18, 1890
Washington, D. C.	0.25	0.05	31, 1889
Norfolk, Va.	0.25	0.05	27, 1893
Omaha, Nebr.	0.25	0.10	10, 1893
Forestburg, Tex.	1.41	0.10	5, 1892
Mount Ida, Ark.	1.20	0.10	10, 1882
Davenport, Iowa	0.50	0.10	3, 1888
Oklahoma City, Okla.	1.75	0.15	20, 1891
Coatesville, Pa.	1.24	0.15	11, 1891
Jupiter, Fla.	1.15	0.15	30, 1893
Toledo, Ohio	1.10	0.15	20, 1880
La Crosse, Wis.	1.04	0.15	3, 1888
Charlotte, N.C.	1.32	0.16	12, 1891
Charleston, S.C.	1.08	0.17	12, 1883
Cumberland, Md. a	1.69	0.20	25, 1890
Mobile, Ala.	1.64	0.20	5, 1879
Fort Riley, Kans.	1.50	0.20	14, 1885
Cincinnati, Ohio	1.14	0.20	14, 1881
Charlotte, N.C.	1.00	0.20	3, 1893
Philadelphia, Pa.	1.00	0.20	20, 1889
Savannah, Ga.	1.60	0.22	26, 1890
Charlotte, N.C.	1.60	0.22	26, 1890
Palestine, Tex.	1.17	0.23	24, 1888
Concordia, Kans.	1.32	0.24	30, 1893
College Hill, Ohio	2.38	0.30	27, 1888
Marshall, Mo.	2.08	0.30	29, 1892
Mountain Spring, Tex.	2.00	0.30	31, 1889
Smithfield, Va.	1.80	0.30	31, 1892
Shields, Kans.	1.75	0.30	30, 1893
Plant City, Fla.	1.90	0.35	9, 1893
Cumberland, Md. b	1.75	0.38	25, 1890
Alexandria, S. Dak.	3.15	0.45	21, 1893
Fort Riley, Kans.	2.70	0.45	13, 1885
Austin, Tex.	2.50	0.48	7, 1884
Hot Springs, Ark.	3.00	0.50	18, 1891
McCauley, Iowa	3.90	1.00	22, 1890
Rio Grande City, Tex.	3.75	1.00	29, 1885
Bolar, Va.	3.00	1.00	24, 1890

MONTHLY SNOWFALL (in inches and tenths).

Chart V shows the depth of snowfall reported for the month. The monthly snowfall was heaviest in the mountains of Colorado and northeastern California, where the depth exceeded 20; at Fort Washakie, Wyo., Cokedale, Mont., Paris, Idaho, Barron, Wis., and Marquette, Mich., more than 10 fell. No snow was reported in New England. In the middle Atlantic states trace of snow fell in Maryland on the 4th. Trace of snow was reported at Rochester, N. Y., on the 6th and 23d.

No snow fell in the Ohio Valley, except in western Pennsylvania, nor in the Mississippi Valley south of northeastern Iowa. Snowfall west of the Mississippi was confined to the mountain regions and the extreme northwest.

On the 15th and at the close of the month snow was reported only in the mountains of Colorado.

Monthly snowfall was reported as follows: *California*.—Summit, 21; Cisco, 16; Truckee, 13.5; Boca, 9; Emigrant Gap, 6; Fort Bidwell, 3. *Colorado*.—Breckenridge, 28.8; Kirk, 26; Climax, 24; Ward District, 23.5; Pikes Peak, 22.4; Gold Hill and Saint Cloud, 18; Stamford, 17.5; Wallet, 14; Moraine, 13.5; Red Cliff, 13.3; Pagoda (near), 12; Como (near) and Cumbres, 10; Lay, 9.8; Steamboat Spring, 9.7; Smoky Hill Mine, 9; Denver, 8.9; San Luis, 8.1; Abbott, Le Roy, and Monte Vista (a), 8; Husted, Monte Vista (b), and Twin Lakes, 6; Brush, River Bend, and Scissors, 5; Colorado Springs, 4.2; Yuma, 4; Agate, Gaynor, Kit Carson, La Jara, and Watkins, 3; Bennet, 2.5; Cheyenne Wells and Garnett, 2; Rico, 1.8; Fort Collins and Lavender, 1; East Dale, 0.5; Montrose, 0.1; Arboles, Deer Trail, Sheridan Lake, and Zuck, trace.

Idaho.—Paris, 10; Bonanza City, 4; Lake, 3.5; American Falls, 1; Idaho Falls, trace. *Iowa*.—Grinnell and Newton, trace. *Maine*.—Calais, trace. *Maryland*.—Baltimore, Glyndon, Oakland, and Sunnyside, trace. *Michigan*.—Marquette, 11.6; Lathrop, 2; Calumet, 1.2; Boon, Harbor Springs, and Sault Ste. Marie, trace. *Minnesota*.—Caledonia, 4; Maple Plain, 1.3; Alma City, Rochester, and Rolling Green, 1; Duluth, Fort Ripley, Minneapolis, Red Wing, Saint Charles, Saint Paul, and Sandy Lake Dam, trace. *Montana*.—Cokedale, 17; Virginia City, 14; Corbin and Hogan, 4; Bozeman and Deer Lodge City, 2.5; Helena, 0.2. *Nevada*.—Stofiel, 7; Wells, 5.5; Empire Ranch and Verdi, 5; Toano, 4; Austin, South Camp, and Sunnyside, 2; Fenelon and Pioche, 1; Palmetto and Virginia City, 0.8; Tuscarora, 0.5; Wabuska, 0.2; Belmont, Candelaria, Carson City, Cranes Ranch, Halleck, Hot Springs, Tybo, and Winnemucca, trace.

New Mexico.—Chama, 7; Santa Fe, 0.6. *New York*.—Malone, 1; Rochester and Ampersand, trace. *North Dakota*.—Oakdale, 5; Fort Buford, 2; Yule, 1; Grand Forks, Saint Johns, and Sykeston, trace. *Oregon*.—Siskiyou, 3; Crook, 2.5. *Pennsylvania*.—Pittsburg, trace. *South Dakota*.—Cross, 4.2; Spearfish, 2; Bear Valley, 1; Rapid City, 0.2; Fort Meade and Whitewood, trace. *Utah*.—Thistle, 0.5; Grouse Creek, Loa, Promontory, and Singletree, trace. *Washington*.—Rosalia, 3; Ferry, trace. *Wisconsin*.—Barron, 10; Shell Lake, 3.5; Columbus, 3; Meadow Valley and Viroqua, 2.5; Bayfield, Beaver Dam, Black River Falls, Florence, Hillsboro, and Neillsville, 2; Hayward, 1.5; Medford (a), Reedsburg, 1; Watertown, 0.8; Koepenick, Milwaukee, and Oconomowoc, 0.5; La Crosse, 0.1; Medford (b), New Holstein, and Shawano, trace. *Wyoming*.—Fort Washakie, 18.9; Lander, 6.5; Fort Yellowstone, 4.7; Fort McKinney, 4.5; Evanston, 4.1; Big Horn Ranch and Cheyenne, 3.5; Camp Pilot Butte, trace.

HAIL.

Description of the more severe hailstorms reported for the month is given under "Local storms."

Hail was reported as follows: 1st, Alabama, Georgia, Iowa, Kansas, Louisiana, Mississippi, Pennsylvania, South Dakota, and Texas. 2d, Georgia, Idaho, Kansas, Louisiana, Minnesota, Nevada, Oregon, and South Dakota. 3d, Colorado, Illinois, Nevada, North Carolina, Oregon, South Carolina, Utah, and Wisconsin. 4th, Kansas, Maryland, Missouri, and Nebraska. 5th, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Missouri, Nevada, Ohio, Utah, West Virginia, and Wisconsin. 6th, Alabama, Arkansas, Georgia, Kansas, Louisiana, Maine, Mississippi, Tennessee, Texas, Utah, Vermont, and Virginia. 7th, Colorado, Iowa, and Texas.

8th, Alabama, California, Colorado, Mississippi, and Washington. 9th, Kansas and Texas. 10th, Iowa, Kansas, Minnesota, Nebraska, Oregon, South Dakota, Texas, and Wisconsin. 11th, Arizona, Iowa, Michigan, Nebraska, South Dakota, and Wisconsin. 12th, Arizona, Kentucky, Michigan, and Ohio. 13th, Arizona, Colorado, and Wisconsin. 14th, Indiana, Iowa, Michigan, Missouri, and Wisconsin. 15th, Alabama, Colorado, Ohio, Oregon, and Pennsylvania. 16th, California, Colorado, Montana, Nevada, and Oregon. 17th, California, Montana, Nevada, Ohio, and Oregon. 18th, California, North Dakota, South Dakota, Utah, and Wyoming.

19th, Missouri, North Carolina, and North Dakota. 20th, California, Kansas, Maryland, Missouri, Nevada, Ohio, Oregon, Pennsylvania, Washington, and West Virginia. 21st, Colorado, Illinois, Indiana, Kansas, Maryland, Minnesota, Missouri, Nebraska, Ohio, South Dakota, Utah, Virginia, West Virginia, and Wisconsin. 22d, Colorado, Iowa, Michigan, Minnesota, Nebraska, Pennsylvania, South Dakota, Washington, and Wisconsin. 23d, Indiana, Kentucky, Massachusetts, Michigan, New Jersey, New York, Ohio, Pennsylvania, Washington, and Wisconsin. 24th, Kansas, Minnesota, Nevada, and Oregon. 25th, Idaho, Iowa, Kansas, Missouri, and Oregon.

26th, Colorado, Illinois, Indiana, Iowa, Kentucky, Maine, Missouri, Nevada, Tennessee, and Texas. 27th, Alabama, Arkansas, Colorado, Massachusetts, Minnesota, Mississippi, North Carolina, Oklahoma, South Carolina, and Texas. 28th, Arkansas, Georgia, Indian Territory, Iowa, Louisiana, North Carolina, North Dakota, Oklahoma, and South Carolina. 29th, Indiana, Kansas, Michigan, Nebraska, South Carolina, and Wisconsin. 30th, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Missouri, Nebraska, Ohio, Oregon, and Pennsylvania. 31st, Alabama, Arkansas, Illinois, Indiana, Iowa, Louisiana, Mississippi, Missouri, New York, North Dakota, and Tennessee.

SLEET.

Sleet was reported as follows: 1st, Nebraska and Wisconsin. 3d, North Carolina and Pennsylvania. 4th, Minnesota, New Hampshire, Utah, and Wisconsin. 5th, Minnesota, Nevada, and Utah. 6th, Colorado and Kansas. 7th, Colorado. 13th, Colorado and Texas. 18th, Utah. 19th, North Dakota. 20th, Montana. 21st, Colorado, South Dakota, and Utah. 22d, Colorado, Kansas, Minnesota, North Dakota, and South Dakota. 23d, Nevada, Utah, and Wisconsin. 24th, Nevada. 25th, South Dakota and Utah. 28th, Colorado.

WINDS.

The prevailing winds in May, 1893, are shown on Chart II by arrows flying with the wind. In the Atlantic coast states the winds were generally from south to west; over the Florida Peninsula, the Gulf States, and the northern plateau region, from southeast to southwest; in the Ohio Valley and Ten-

nessee, over the middle plateau region, and along the Pacific coast, from southwest to northwest; in the upper lake region and the upper Mississippi and Missouri valleys, from northwest to northeast; on the southeast slope of the Rocky Mountains, from east to south; and on the northeast and middle-eastern slopes of the Rocky Mountains, variable.

HIGH WINDS. (In miles per hour.)

Wind velocities of 50 miles, or more, per hour were reported at regular stations of the Weather Bureau as follows:

3d, 52, s., at Kittyhawk, N. C. 4th, 55, s., at Fort Canby, Wash.; 54, ne., at Eastport, Me.; 52, sw., at Woods Holl, Mass. 6th, 50, ne., at Little Rock, Ark. 9th, 50, se., at Dodge City, Kans. 10th, 50, w., at Cheyenne, Wyo. 11th, 56, w., at Red Wing, Minn.; 54, s., at Fort Canby, Wash. 13th, 51, w., at Santa Fe, N. Mex.; 51, e., at Tatoosh Island, Wash.; 52, nw., at Cleveland, Ohio. 18th, 88, w., at Pikes Peak, Colo.; 60, w., at Cheyenne, Wyo.; 56, se., at Huron, S. Dak.; 56, nw., at Denver, Colo.; 52, s., at Valentine, Nebr.; 50, se., at Saint Vincent, Minn.

19th, 72, s., at Saint Vincent, Minn.; 60, nw., at Bismarck, N. Dak.; 60, w., at Cheyenne, Wyo., and Kearney, Nebr.; 55, nw., at Colorado Springs, Colo.; 54, se., at Moorhead, Minn.; 52, sw., at Huron, S. Dak.; 50, w., at Pierre, S. Dak. 21st, 84, nw., at Sioux City, Iowa; 80, w., at Pikes Peak, Colo.; 54, ne., at Huron, S. Dak.; 50, w., at Fort Stanton, N. Mex. 22d, 72, n., at Kearney, Nebr.; 50, s., at Chicago, Ill. 23d, 89, w., at Pikes Peak, Colo.; 74, sw., at Detroit, Mich.; 60, sw., at Cleveland, Ohio; 56, sw., at Buffalo, N. Y.; 54, sw., at Port Huron, Mich.; 50, s., at Cairo, Ill. 24th, 52, nw., at Keeler, Cal. 25th, 50, sw., at Saint Louis, Mo. 29th, 51, nw., at Salt Lake City, Utah. 30th, 50, nw., at Amarillo, Tex.

LOCAL STORMS.

(75th meridian time is used at regular Weather Bureau stations.)

1st.—A violent thunder and rain storm visited Franklin, Tenn., at 10 a. m. At Greeneville, Tenn., many trees were blown down and several houses were unroofed by high wind. A severe thunder, rain, and hail storm was reported at Adairsville, Ga., about 4 p. m.

2d.—Exceptionally heavy rain fell at Mobile, Ala., in the morning; 1.18 inch of rain fell in 20 minutes. A house was struck by lightning at New London, Conn.

3d.—Severe storms prevailed over North Carolina and South Carolina. At Wilmington, N. C., a gale from the southwest began 2 p. m. and ended 11.45 p. m., causing considerable damage of a minor character. A tornado moving northeast struck Oxford, N. C., at 4.57 p. m., killing 1 person and wrecking buildings in a path about 75 feet in width; estimated value of property destroyed, \$16,000. Heavy rain fell before the storm struck, zigzag lightning was observed, but little thunder was heard, and no hail fell.

A storm which lasted 5 to 10 minutes passed near Greystone, N. C., about 5.15 p. m., attended by heavy rain, thunder, and lightning; 3 persons were injured, and trees and buildings were prostrated in a path 50 to 200 yards in width. A severe thunder and rain storm, with hail, moved northeast over Brookston, N. C., at 5.20 p. m., destroying buildings and uprooting trees. Destructive local storms were reported in Lexington, Newberry, and adjoining counties in South Carolina. Near Williston, Barnwell County, S. C., a destructive storm moved northeast in a path about 300 yards in width. At Springfield, Orangeburg County, S. C., one person was killed, and the loss to buildings was placed at \$13,000.

4th.—Violent gales and heavy rain prevailed over the middle Atlantic and New England states. Several vessels were reported wrecked on the New Jersey and New England coasts. Northern Kansas was visited by destructive storms in the afternoon. At Baileyville, Kans., buildings valued at \$10,000 to \$12,000 were destroyed.

5th.—Severe local storms occurred in the Ohio Valley and in Oklahoma. A heavy thunder and rain storm visited Parkersburg, W. Va., in the afternoon. A hailstorm passed north of Frankfort, Ohio. A tornado moved east over Wilmington, Ohio, about 3 p. m., causing considerable damage to

buildings, and injuring a number of persons. Three persons were reported killed by lightning at Liberty, Ind. A destructive tornado was reported west of Edmond, Oklahoma County, Okla., about 9 p. m.; 3 persons were reported killed, a number injured, and 30 to 40 houses demolished. A thunder and hail storm visited Independence, Kans.

6th.—Severe storms occurred over the Gulf States and Arkansas. At Lafayette, Ala., 2 persons were struck by lightning. During a rain and hail storm at Dallas, Tex., a building was struck and 4 persons were injured by lightning. An unusually severe hailstorm moved northeast over Llano, Tex. A destructive storm struck Gainesville, Tex., about 4 p. m. A number of buildings were unroofed during a thunderstorm at Ashdown, Ark. Crops and fruit were damaged by hail at Melbourne, Ark. A severe hailstorm visited Labette County, Kans.; sheep and poultry were killed, and great damage was caused to crops and gardens.

10th.—A wind and hail storm at night damaged buildings near Dunlap, Iowa. Severe storms were reported at Charter Oak, Williams, Iowa Falls, Coon Rapids, and Grundy Center, Iowa. At Council Bluffs, Iowa, one person was killed by lightning. Near Atlantic, Iowa, a barn was struck by lightning and burned. Damage to crops was caused by heavy rain at Mesquite, Tex.

11th.—Severe storms were reported in Texas, Illinois, and Wisconsin, and destructive gales prevailed in Ohio. At Abilene, Tex., a severe thunderstorm advanced from the southwest in the early morning; considerable damage was caused by heavy rain. An exceptionally heavy rainstorm visited El Paso, Tex., in the evening and at night. Destructive storms were reported in the afternoon at Hendrix and Clifton, Ill. At Hammond, Wis., several barns were struck by lightning and burned. Severe westerly gales prevailed over Wisconsin and the Dakotas in the afternoon.

12th.—Destructive local storms were reported in southeastern Lower Michigan. At Port Huron a house was struck by lightning. About 2 p. m. a storm moved eastward near Pinckney, Mich., injuring a number of persons and destroying property to the estimated value of \$15,000. At Rawsonville, Mich., some damage was caused by hail and rain.

13th.—High northeast winds and heavy rain prevailed over northern New England.

14th.—Thunder and hail storms caused some damage in southwestern Lower Michigan.

15th.—Heavy rain and thunder storms were reported near Lake Erie. At Erie, Pa., 3.68 inches of rain fell in 24 hours. At Cleveland, Ohio, a barn was struck by lightning and burned. At Colebrook, Ohio, rain began in the afternoon and continued until the afternoon of the 17th, the total rainfall for the period being 5.76 inches. At Wheeler, Ohio, heavy rain began in the afternoon and continued until the evening of the 18th, the total depth of rainfall being 10.65 inches; great damage was caused by flooding streams. About 7 p. m. 3 houses were unroofed and some damage was caused by heavy rain at Mobile, Ala.

16th.—Severe storms continued near Lake Erie; streams overflowed their banks, causing washouts and landslides on railroads. At Erie, Pa., rain ended in the morning. In that city the estimated damage to property was \$250,000. In Erie County the damage to property, including railroads, was placed at \$500,000. In many instances the water reached the second floors of houses in Erie.

18th.—High winds prevailed over the Dakotas and Colorado, causing considerable damage to crops and property. At Fort Buford, N. Dak., heavy rain began in the evening. At Grafton, N. Dak., a man was killed by lightning. At Rapid City, S. Dak., a westerly gale prevailed in the evening, with thunder and some hail. About Laporte, Colo., the destruction to property and crops was placed at \$20,000.

19th.—At Bismarck, N. Dak., heavy rain fell in the morning and light rain continued at intervals during the afternoon and evening, and considerable damage was caused by high wind. High wind continued over North Dakota until the morning of the 20th.

20th.—Violent storms occurred in the upper Ohio valley. At Pittsburg, Pa., a thunderstorm, with heavy rain and large hail, prevailed from 4 to 4.45 p. m.; considerable damage was caused by hail. In parts of western Pennsylvania, West Virginia, and southeastern Ohio great damage was caused by heavy rain and hail. Hailstorms were reported at Hastain, Mo., and Pauline, Kans.

21st.—Severe thunderstorms occurred in the Northwestern States. A severe hailstorm from the northwest visited Woodstock, Md., in the evening. A thunder, rain, and hail storm moved east-northeast over Dexter, Minn., destroying 2 houses and 7 barns. Destructive rain and hail storms were reported near Rolling Green, Minn., in the evening. A thunderstorm, with heavy rain and large hail, moved southeast over Canton, S. Dak., about midnight. At Huron, S. Dak., a thunder and rain storm, with an easterly gale, prevailed in the evening; a number of small buildings were blown down. Considerable damage was caused by wind and hail at Mitchell, S. Dak.

A thunder and hail storm moved southeast over Sioux Falls, S. Dak., at 7 p. m. Grain was slightly damaged by hail at Wentworth, S. Dak. At Sioux City, Iowa, a rain and thunder storm began at 10.10 p. m., and continued until the early morning of the 22d; the wind shifted suddenly to northwest and reached a velocity of 84 miles per hour, the highest velocity on record at that station; considerable damage was caused by high wind. Seven head of cattle were killed by lightning at Panama, Iowa. Damage was caused by hail at Arcadia, Nebr. A severe windstorm demolished buildings and killed stock at Ashton, Nebr. Destructive local storms were reported about Springview, Nebr.

22d.—Severe local storms occurred in Wisconsin, Minnesota, the Dakotas, Iowa, and Nebraska. A heavy rain, hail, and thunder storm moved northeast over Darlington, Wis., about 5 p. m. A destructive thunder, rain, and hail storm moving northeast was reported at Moscow, Wis., at 5.03 p. m.; at that point 3 persons were reported killed and the value of property destroyed was estimated at \$3,500. A thunderstorm, with large hail, was reported at Watertown, Wis. During a thunder and hail storm at Blooming Grove, Minn., several small buildings were demolished. About 1 a. m. a destructive storm from the southwest visited Grand Meadow, Minn.; stock was killed by lightning and many outbuildings were demolished by wind. Thunderstorms, with high winds, caused considerable damage in Minnesota.

Madison, S. Dak., was visited by a heavy rain and hail storm about 2 p. m.; the storm moved east-northeast in a path 300 feet in width, destroying frail buildings. A hailstorm moved eastward over Montrose, S. Dak., in the afternoon, causing damage of a minor character. Damage was caused by lightning and hail in Iowa. At Charles City, Iowa, a church was struck by lightning. At Williams, Iowa, stock was killed by lightning, and outbuildings were damaged by high winds. At Kearney, Nebr., heavy rain, preceded by hail, fell in the morning, and the wind reached a velocity of 72 miles per hour. Some damage was caused by wind and hail at Seibert, Colo.

23d.—Severe storms were general throughout the northeastern and north-central states. At New Haven, Conn., a house was struck by lightning and burned. Damage was caused by high wind and heavy rain throughout New York, western Pennsylvania, West Virginia, and western Maryland. A violent storm visited Louisville, Ky., at 4.12 a. m. The storm moved northeast, damaging a number of buildings. A very heavy thunder and rain storm moved southeast over

Newport, Ky., about 5 a. m. Damage of a minor character was caused by high wind throughout Kentucky.

Hailstorms damaged crops and high winds prevailed in Ohio. A heavy thunder and rain storm moved northeast over Beaver Dam, Ohio, at 6.30 a. m. The damage by wind and rain in Hancock County, Ohio, was placed at \$60,000. At Cleveland the wind reached a velocity of 60 miles per hour and an extreme velocity of 90 miles, with heavy rain; 3 persons were killed and property was destroyed to the estimated value of \$10,000. The storm was destructive at Lima, Findlay, and Tiffin, Ohio. At Sandusky, Ohio, the storm was the severest reported in a number of years. At Toledo, Ohio, the wind reached an extreme velocity of 62 miles per hour, causing damage to the extent of about \$4,000. The damage to property at Wauseon, Ohio, was placed at \$4,000.

Thunder, rain, and hail storms caused some damage in Indiana. Several buildings were destroyed in Elwood, Ind., by a storm which moved southeast at 2 a. m. A heavy thunder and rain storm moved northeast over Marion, Ind., at 4 a. m. At Detroit, Mich., the wind reached a velocity of 74 miles per hour at 12.45 p. m., causing considerable damage. Destructive winds prevailed generally over Lower Michigan. A thunder, rain, and hail storm moved northeast over Fairfield, Mich., at 7 a. m. A severe rain and thunder storm moved northeast over Pinckney, Mich., at 9.30 p. m., destroying property valued at \$6,000.

During a heavy thunder and rain storm at Port Huron, Mich., in the morning, the wind reached a velocity of 54 miles per hour from the southwest. In the afternoon property was damaged to the extent of about \$2,000, at Rollin, Mich. At Romulus, Mich., a severe storm moved northeast, killing 1 person, and destroying property to the value of about \$1,000. Heavy rain and high wind prevailed about Adrian, Mich. A thunder and rain storm in the evening caused some damage at Sedalia, Mo.

25th.—Severe storms occurred in Illinois, Missouri, and Kansas. About Springfield, Ill., small streams were flooded by heavy rain and washouts occurred on railroads. At Brunswick, Mo., a man was killed by lightning. A heavy rain, hail, and thunder storm moved east over Laddonia, Mo., at 4 p. m., killing 1 person and destroying property to the estimated value of \$30,000. A severe thunder, rain, and hail storm moved eastward over Martinsburg, Mo., at 5.10 p. m. A thunderstorm, with heavy rain and large hail, moved east north of Mexico, Mo., at 5 p. m., killing 1 person.

An exceptionally heavy rainstorm began at Palmyra, Mo., and continued until the morning of the 26th; much damage was caused to crops, and lowlands were flooded. A destructive hailstorm, with heavy rain, visited Audrain County, Mo., in the evening. A heavy rain and hail storm moved southeast over Rush Hill, Mo., at 5 p. m., killing 2 persons and destroying property valued at \$5,000. At Saint Louis, Mo., a heavy cloud was observed advancing rapidly from the southwest at 10.20 p. m. Heavy rain began at 11.30 p. m., and the wind reached a velocity of 50 miles per hour. The early morning of the 26th a thunder and rain storm of unusual severity passed over the city; several buildings were struck by lightning, and considerable damage was caused by heavy rain. Damage by hail and lightning was reported at Abilene, Kans. A violent thunder storm moved southeast over Garnett, Kans., at 5.30 p. m., killing 1 person and destroying property valued at \$1,000. At Leavenworth, Kans., heavy rain began in the afternoon and continued until the morning of the 26th. A severe hailstorm was reported at Manhattan, Kans.

26th.—Severe local storms were reported in the Ohio Valley and Tennessee. A thunderstorm, with high wind, visited Franklin, Ky., at 4.30 p. m. At Springfield, Ky., large trees were uprooted. A severe wind, rain, and hail

storm prevailed at Laconia, Ind., from 3 to 4 p. m., damaging fruit and grain. A destructive hailstorm was reported 6 miles north of Forestburg, Tex.

27th.—Several houses were struck by lightning at Roxbury, Mass. Damage was caused by heavy rain at Water Valley, Miss. Destructive thunder and hail storms were reported in North Carolina. A severe thunder and wind storm moved east over Sloan, N. C., at 3.30 p. m. A severe wind and hail storm was reported near Bainbridge, Ga. A thunderstorm, with heavy rain and hail, occurred in the afternoon and evening at Little Rock, Ark. At Macksville, Kans., 5 children were stunned by lightning. A heavy hailstorm was reported at Colorado, Mitchell County, Tex.

28th.—Severe wind and rain storms occurred in western Tennessee and Georgia. At Chattanooga, Tenn., a thunder and rain storm began at 8.28 p. m. and continued until the early morning of the 29th; heavy rain washed streets badly and interrupted street car traffic.

29th.—Severe storms occurred in the Carolinas, Georgia, Indiana, Lower Michigan, Iowa, South Dakota, and Utah. At Wilmington, N. C., the wind reached a velocity of 40 miles per hour from the northwest in the morning and showers continued until evening; a number of trees were blown down and two small boats were capsized near Wrightsville. The storm was exceptionally severe about Hollands Store, S. C. At that place 3 persons were reported killed and a number injured. Destructive rain, thunder, and hail storms were reported near Trenton and Simpsonville, S. C.

Severe local storms occurred in central and northern Georgia in the early morning, destroying considerable property and injuring a number of persons. At Atlanta, Ga., a severe thunderstorm began shortly after midnight and continued with heavy rain during the early morning of the 29th. A storm moved east in a path 150 yards in width near Box Spring, Ga., at 7 a. m. A destructive rain and hail storm was reported in the afternoon at Logansport, Ind. At Detroit, Mich., a house was struck by lightning. Stock was killed by lightning at Murray, Iowa. A hailstorm was reported 7 miles south of Pleasant Dale, Kans. Stock was reported killed by lightning at Gale, S. Dak. A violent gale of short duration caused considerable damage in Utah. At Salt Lake City, Utah, the wind reached a velocity of 51 miles per hour.

30th.—Local storms were reported in New York, Florida, Louisiana, Arkansas, Ohio, Indiana, Missouri, and Nebraska. At Lebanon Springs, N. Y., a barn was struck by lightning

and burned. During a heavy thunder and rain storm at Jupiter, Fla., in the afternoon, the wind reached a velocity of 36 miles per hour from the northeast. Hail destroyed corn and cotton about Farmerville, La. Crops were damaged by hail in Bienville Parish, La. A thunder and hail storm visited Ashdown, Ark., from 3 to 5 p. m.

A cloudburst, with some hail, was reported at Buckner, Ark., at 5.50 p. m. A severe hailstorm occurred near Dallas, Ark., at 3 p. m. A child was killed by lightning near Fort Smith, Ark. At Little Rock, Ark., a thunderstorm, with heavy rain, began 10.55 p. m. and ended the morning of the 31st. The storm was attended by high northwest winds which reached a maximum velocity of 42 miles per hour. Unusually heavy thunder and rain storms visited Hope, Ark., at 4.30 p. m. A violent storm began at Washington, Ark., at 4.45 p. m. and ended at 5.15 p. m., causing loss of life and stock, and destroying property and crops.

A heavy thunder and hail storm damaged corn about Cambridge, Ohio. A church was struck by lightning at Delphi, Ind. A house was struck by lightning at Lebanon, Mo. A severe wind and rain storm damaged fruit, trees, and vines about Glasgow, Mo. At Genoa, Nebr., a heavy rainstorm, with hail, began at 6 p. m., 30th, and ended the early morning of the 31st. Streams and lowlands were flooded.

31st.—Local storms were reported in New York, Mississippi, Arkansas, Tennessee, and Kentucky. Heavy rain and hail damaged fruit and vegetation about Addison, N. Y. A severe rain and hail storm visited Holly Springs, Miss. Loss of life and destruction of property were reported at Rosedale, Miss. A tornado moved northeast near University, Miss., in the evening. A funnel-shaped cloud was observed which divided in two parts, one part passing $\frac{1}{2}$ -mile west and northwest of University, prostrating trees in a path about 200 yards in width. A destructive storm moved northeast near Douglas, Ark., about 2 p. m. At Poplar Grove, Ark., a tornado moved northeast in a path 250 yards in width at 2 p. m., killing 1 person. A thunderstorm, with heavy rain and hail, moved eastward over Forrest, Ark., at 3 p. m. Great damage was caused to property and crops about Lagrange, Ark., by a storm which moved northeast at 3 p. m. Exceptionally heavy rain flooded streams and lowlands about Nunnely and Jackson, Tenn. A thunderstorm, with high wind and heavy rain, caused considerable damage about Franklin, Ky. Several houses were unroofed by high wind at Paducah, Ky. Heavy rain damaged corn about Pauline, Kans.

INLAND NAVIGATION.

FLOODS.

The month opened with the Mississippi River high and rising throughout its course. The Ohio, Wabash, and Arkansas rivers were also rising. From Saint Paul, Minn., to Hannibal, Mo., the Mississippi River had risen one foot in two days. At Saint Louis, Mo., the stage of water was 30.4 feet, 0.4 foot above the danger-line, a rise of 3 feet in 2 days. At Cairo, Ill., the Mississippi River had risen 2.7 feet in 2 days (to 44.6 feet), 4.6 feet above the danger-line. The Ohio River had risen 4 feet at Pittsburg, Pa., 5 feet at Parkersburg, W. Va., and 7 feet at Cincinnati, Ohio, in 2 days. At Cincinnati the water reached the danger-line, 45 feet. The Ohio was rising rapidly at Louisville, Ky., and at Evansville, Ind., a rise of 9 feet in 3 days was reported. Destructive floods were reported in the valley of the Red River of the North. At Little Rock, Ark., the Arkansas River reached a stage of 24.3 feet, 1.3 foot above the danger-line, at 4 p. m. Floods were reported in the smaller streams of Ohio.

On the 2d the Mississippi River reached 13.7 feet at Saint

Paul, Minn., submerging low-lying parts of Saint Paul and Minneapolis. At Saint Louis, Mo., cellars on the river front were flooded, and in east Saint Louis a large warehouse was wrecked. The Ohio River reached a stage of 50.6 feet at 7 a. m. at Cincinnati, a rise of 5.4 feet in 24 hours. Low-lying ground was flooded, and landslides and washouts occurred on the railroads. At Louisville the river passed the danger-line. At Cairo, Ill., the Ohio was about 6 feet above the danger-line and rising rapidly. The Arkansas River reached 25.3 feet at Little Rock about 3 p. m., partially submerging plantations above and below the city. The Red River of the North continued to rise at Saint Vincent, Minn. Rivers and streams continued high in Ohio. Considerable damage was caused about Columbus, Ohio, by the overflow of the Scioto River.

On the 3d the Mississippi River reached 31.5 feet at Saint Louis, Mo., and in the evening began to slowly subside. At Cairo, Ill., the river reached 46.8 feet, 6.8 feet above the danger-line, and unprotected bottom lands in that section were submerged from the overflow from the Ohio and Mississippi

ivers. At Louisville, Ky., the Ohio River rose to 27.4 feet, 3.4 feet above the danger-line. At Little Rock, Ark., the Arkansas River remained nearly stationary at 25.2 feet. Freshets occurred in western New England. The Connecticut River rose rapidly at Hartford, Conn., submerging the lower part of the city. At Brattleboro, Vt., the Connecticut River rose 7 feet in 10 hours, and about Barre, Vt., many bridges were washed away. In Washington County, Vt., the damage by flood was estimated at \$50,000. High water was reported along the Genesee River, N. Y., and in streams in northern Pennsylvania and western Maryland. The James River rose rapidly at Lynchburg, Va., on the 3d and 4th, reaching 14.0 feet at 7.15 p. m., 4th, after which it subsided. The Sciota River fell rapidly at Columbus, Ohio. Streams were high in parts of Tennessee and Arkansas. At Saint Paul, Minn., the Mississippi River rose slowly and became stationary at 14.7 feet, 0.7 foot above the danger-line, on the 4th, without causing serious damage.

During the 4th the river fell slowly at Louisville, Ky. Floods occurred in Vermont, New Hampshire, and Connecticut. Swollen streams were reported throughout eastern New York. Damage by flood was reported in eastern Tennessee and northern Alabama. Rivers and streams in Ohio were reported falling. On the 6th the Connecticut River at Hartford was the highest, 24.5 feet, since 1878. High water in the Alabama River flooded bottom lands about Montgomery, Ala. The Red River of the North was falling slowly at Saint Vincent, Minn.

On the 7th no change had occurred in the stage of the Mississippi River at Saint Paul, Minn., since the 4th. At Cairo, Ill., the river reached a stage of 49.1 feet at 8 a. m., flooding the tracks of the Iron Mountain Railroad at Birds Point, and submerging the Cotton Belt Road for a distance of 5 miles out of the city. At Cincinnati the Ohio River reached 51 feet, a rise of 2.1 feet in 24 hours, after which it began to fall. The Red River of the North continued to fall slowly. The Mississippi River passed the danger-line at Dubuque, Iowa, on the 8th. Overflow from the Mississippi and Ohio rivers inundated large areas of wheat land about Cairo, Ill., on the 10th. A crevasse 200 feet in width occurred in the levee $1\frac{1}{2}$ mile below Lakeport, Ark., about 4 a. m. of the 11th.

Melting snow swelled the Columbia and Snake rivers and tributaries in Idaho and the north Pacific coast states. On the 12th the Mississippi River was stationary at 16.7 feet, 0.7 of a foot above the danger-line, at Dubuque, Iowa. The Mississippi reached the danger-line at Keokuk, Iowa. On the 13th the Mississippi River continued to rise slowly at Keokuk, Iowa. The Lakeport (Ark.) crevasse had widened to 500 feet and a large tract of cotton land was flooded. About 6 a. m. of the 14th a crevasse about 200 feet in width occurred in the levee at Brooks Mill, Chicot County, Ark. A break about 50 feet in width occurred on Bayou Lafourche, near Lafourche Crossing, at 3 a. m. On the 15th a crevasse occurred at Grand Lake, Ark. A third crevasse was reported in Chicot County, in the Matthews Bend levee. The break at Brooks Mill was enlarging rapidly.

On the 17th another crevasse occurred in the Mississippi levee above Grand Lake in Chicot County, Ark. The levees in Louisiana and Mississippi were reported in excellent

condition. Freshets were reported in the Kennebec River, Maine. A report from Cleveland, Ohio, stated that the Cuyahoga River rose rapidly, inundating low-lying sections, carrying away vast quantities of lumber, destroying houses and railroad tracks, and drowning 6 persons and a quantity of stock. Rivers of the north Pacific coast states were reported rising rapidly. On the 18th and 19th floods were reported in the streams of Washington and Oregon. On the 21st the river fell below the danger-line at Keokuk, Iowa. At Cairo, Ill., the Ohio River was falling rapidly.

On the 23d a break occurred in the levee on Bayou Lafourche, 4 miles below Lafourche Crossing. A break 500 feet in width occurred in East Carroll Parish, near Lake Providence. On the 24th the crevasse near Lake Providence was 1,200 feet in width and widening rapidly. On the 29th a break occurred in the levee at Amos Bayou, about 14 miles above Arkansas City, on the Arkansas side of the Mississippi River. At the close of the month large portions of East Carroll and Madison parishes, La., were submerged.

STAGE OF WATER IN RIVERS.

The following table shows the danger-points at the various river stations; the highest and lowest stages for the month, with the dates of occurrence; and the monthly ranges:

Heights of rivers above low-water mark, May, 1893.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Height.	Date.	Height.	Date.	
<i>Red River.</i>	<i>Feet.</i>	<i>Feet.</i>		<i>Feet.</i>		<i>Feet.</i>
Shreveport, La.	29.2	24.0	23, 24	14.3	1	9.7
<i>Arkansas River.</i>						
Fort Smith, Ark.	22.0	26.8	1	5.0	27	21.8
Little Rock, Ark.	23.0	25.2	3	9.5	27	15.7
<i>Missouri River.</i>						
Fort Buford, N. Dak. * ..	25.0	13.3	25	7.9	4-6	5.4
Bismarck, N. Dak.	75.0	8.0	27, 28	2.4	7	6.2
Pierre, S. Dak.	13.0	4.0	31	0.2	14, 15	3.8
Sioux City, Iowa.	18.7	11.9	29	7.9	23	4.0
Omaha, Nebr.	18.0	11.1	30, 31	7.9	21, 22, 24, 25	3.2
Kansas City, Mo.	21.0	13.4	31	8.7	23, 24	4.7
<i>Mississippi River.</i>						
Saint Paul, Minn.	14.0	14.7	5-7	9.7	24, 25	5.0
La Crosse, Wis.	10.0	11.9	9	9.7	27-29	2.2
Dubuque, Iowa.	16.0	16.7	11-14	12.9	31	3.8
Davenport, Iowa.	15.0	13.6	14	10.7	31	3.9
Keokuk, Iowa.	14.0	14.9	15	12.2	31	2.7
Hannibal, Mo.	17.0	16.8	28	14.5	31	2.3
Saint Louis, Mo.	30.0	31.5	3	22.4	24, 25	9.1
Cairo, Ill.	40.0	49.3	9-13	34.3	26	15.0
Memphis, Tenn.	33.0	35.2	15-17	31.0	30, 31	4.2
Vicksburg, Miss.	41.0	48.3	22, 23	41.4	1	6.9
New Orleans, La.	13.0	16.1	31	13.3	1	3.8
<i>Ohio River.</i>						
Parkersburg, W. Va.	38.0	31.0	20	8.0	31	23.0
Cincinnati, Ohio.	45.0	51.0	7	19.9	31	31.1
Louisville, Ky.	24.0	27.4	3	7.8	31	19.6
<i>Cumberland River.</i>						
Nashville, Tenn.	40.0	20.2	9	6.5	28	13.7
<i>Tennessee River.</i>						
Chattanooga, Tenn.	33.0	30.0	7	4.6	28	25.4
<i>Monongahela River.</i>						
Pittsburg, Pa.	22.0	19.8	18	4.5	31	15.3
<i>Savannah River.</i>						
Augusta, Ga.	32.6	12.4	5	6.1	29	6.3
<i>Willamette River.</i>						
Portland, Oregon.	15.0	21.0	22	9.8	1	11.2
<i>Susquehanna River.</i>						
Harrisburg, Pa.	17.0	16.5	6	3.7	31	12.8
<i>Alabama River.</i>						
Montgomery, Ala.	48.0	24.9	6	3.3	28, 29	21.6
<i>James River.</i>						
Lynchburg, Va.	18.0	14.0	4	1.4	23, 26-28	12.6
<i>Des Moines River.</i>						
Des Moines, Iowa.	19.0	10.6	12	6.0	29-31	4.6
<i>Sacramento River.</i>						
Red Bluff, Cal.	22.0	8.5	17	4.9	30, 31	3.6
Sacramento, Cal.	25.0	24.8	16-18	22.8	31	2.0

ATMOSPHERIC ELECTRICITY.

THUNDERSTORMS.

Description of the more severe thunderstorms reported for the month is given under "Local storms."

Thunderstorms were reported as follows: East of the Rocky

Mountains they were reported in the greatest number of states, 29, on the 23d and 27th; in 26 on the 1st and 28th; in 20 to 25 on the 6th, 21st, 26th, 29th, 30th, and 31st; in 15 to 19 on the 2d, 3d, 4th, 11th, 13th, 14th, 15th, 20th, and 24th; in 10

to 14 on the 5th, 7th, 8th, 10th, 12th, 22d, and 25th; in 5 to 9 on the 9th, 16th, and 19th; and in 1 to 4 on the 17th and 18th. There were no dates on which thunderstorms were not reported.

East of the Rocky Mountains thunderstorms were reported on the greatest number of dates, 24, in Missouri; on 23 in Florida; on 15 to 20 in Alabama, Arkansas, Georgia, Illinois, Iowa, Kansas, Louisiana, Mississippi, Nebraska, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Texas, and Virginia; on 10 to 14 in Indiana, Kentucky, Maryland, Massachusetts, Michigan, Montana, North Carolina, South Carolina, South Dakota, West Virginia, and Wisconsin; on 5 to 9 in Connecticut, District of Columbia, Minnesota, North Dakota, and Oklahoma; and on 1 to 4 in Delaware, Indian Territory, Maine, New Hampshire, Rhode Island, and Vermont.

West of the Rocky Mountains thunderstorms were reported

in Arizona, on the 10th to 13th, and 15th; in California on the 4th, 7th, 8th, 10th to 14th, 16th, 17th, 26th, and 27th; in Colorado on the 2d to 8th, 10th, 13th to 18th, 21st, 26th, 27th, 28th, and 31st; in Idaho on the 16th, 17th, 22d, and 29th; in Nevada on the 5th, 7th, 8th, and 12th; in New Mexico on the 5th, 6th, 7th, 9th, 13th, and 14th; in Oregon on the 2d, 3d, 15th, 17th, 25th, and 31st; in Utah on the 9th, 21st, and 26th; in Washington on the 2d, 7th, 15th, 16th, 17th, and 25th; and in Wyoming on the 3d, 4th, 5th, 18th, 19th.

AURORAS.

On the 7th auroras were reported in New England, New Jersey, New York, the Lake region, and the extreme upper Mississippi, Red River of the North, and upper Missouri valleys. On the 9th auroras were noted at points in the Lake region.

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for May, 1893, of the directors of the various state weather services:

ALABAMA.

Temperature.—The mean was 2.5 below the normal; maximum, 96, at Healing Springs, 25th; minimum, 38, at Valley Head, 4th; greatest monthly range, 56, at Healing Springs; least monthly range, 30, at Daphne.

Precipitation.—The average was 3.88 above the normal; greatest monthly, 13.05, at Union; least monthly, 4.03, at Geneva.

Wind.—Prevailing direction, south.—*P. H. Mell, Observer, Weather Bureau, Auburn, director.*

ARIZONA.

Temperature.—The mean was 1.7 above the normal; maximum, 110, at Buckeye, 21st; minimum, 20, at Whipple Barracks, 3d; greatest monthly range, 63, at Holbrook and San Carlos; least monthly range, 43, at Saint Helena Ranch.

Precipitation.—Greatest monthly, 2.18, at Fort Apache; least monthly, 0.00, at Calabasas.

Wind.—Prevailing direction, southwest.—*W. Burrows, Observer, Weather Bureau, Tucson, director.*

ARKANSAS.

Temperature.—The mean was 0.5 below the normal; maximum, 94, at Hot Springs, 25th, at Pine Bluff, 19th, and at Texarkana, 27th; minimum, 38, at Keesees Ferry, 2d; greatest monthly range, 54, at Keesees Ferry; least monthly range, 37, at Marcella.

Precipitation.—The average was 4.72 above the normal; greatest monthly, 19.88, at Lonoke; least monthly, 5.21, at Kirby.

Wind.—Prevailing direction, south.—*F. H. Clarke, Local Forecast Official, Weather Bureau, Little Rock, director.*

CALIFORNIA.

Temperature.—The mean was 2.0 below the normal; maximum, 103, at Needles, 31st; minimum, 28, at Meadow Valley, 18th, and at Fort Bidwell, 1st and 21st; greatest monthly range, 64, at Tulare; least monthly range, 19, at Poway.

Precipitation.—The average was 0.11 below the normal; greatest monthly, 5.61, at Shasta; least monthly, 0.00, at a number of stations.

Wind.—Prevailing direction, west.—*J. A. Barwick, Observer, Weather Bureau, Sacramento, director.*

COLORADO.

Temperature.—The mean was 2.0 below the normal; maximum, 98, at Downing, 16th; minimum, —2, at Pikes Peak, 1st.

Precipitation.—The average was about 0.50 below the normal; greatest monthly, 6.30, at Saint Cloud; least monthly, 0.09, at Las Animas.

Wind.—Prevailing direction, west.—*J. J. Gilligan, Observer, Weather Bureau, Denver, director.*

FLORIDA.

Temperature.—The mean was about 2.0 above the normal; maximum, 101, at Micco, 29th; minimum, 49, at New Smyrna, 5th; greatest monthly range, 46, at Plant City; least monthly range, 19, at Key West.

Precipitation.—The average was about 0.50 below the normal; greatest monthly, 7.98, at Kissimmee; least monthly, 1.64, at Tarpon Springs.

Wind.—Prevailing direction, southeast.—*E. R. Demain, Observer, Weather Bureau, Jacksonville, director.*

GEORGIA.

Temperature.—Maximum, 100, at Americus, Cordele, and Hawkinsville,

21st; minimum, 38, at Diamond, 4th and 19th; greatest monthly range, 57, at Americus and Hawkinsville; least monthly range, 35, at Monticello.

Precipitation.—Greatest monthly, 7.68, at Thomasville; least monthly, 1.20, at Darien.

Wind.—Prevailing direction, west.—*Park Morrill, Local Forecast Official, Weather Bureau, Atlanta, director.*

IDAHO.

The month was cold and unseasonable.

Temperature.—Maximum, 91, at Payette, 15th; minimum, 12, at Lake, 1st; greatest monthly range, 73, at Lake; least monthly range, 46, at Moscow.

Precipitation.—Greatest monthly, 3.75, at Fort Sherman; least monthly, 0.35, at Lake.

Wind.—Prevailing direction, southwest.—*J. H. Smith, Observer, Weather Bureau, Idaho Falls, director.*

ILLINOIS.

Temperature.—The mean was 2.7 below the normal; maximum, 95, at McLeansboro, 20th; minimum, 25, at Fort Sheridan, 1st.

Precipitation.—The average was 0.10 below the normal; greatest monthly, 8.05, at Atwood; least monthly, 1.60, at Hennepin.

Wind.—Prevailing direction, northwest.—*John Craig, Observer, Weather Bureau, Springfield, director.*

INDIANA.

Temperature.—The mean was 1.4 below the normal; maximum, 94, at Bedford, 22d; minimum, 31, at Cambridge City, 19th; greatest monthly range, 58, at Bedford; least monthly range, 39, at Degonia Springs.

Precipitation.—The average was 0.06 above the normal; greatest monthly, 9.60, at Marengo; least monthly, 1.45, at Muncie.

Wind.—Prevailing direction, southwest.—*Prof. H. A. Huston, Lafayette, director; C. F. R. Wappenhans, Local Forecast Official, Weather Bureau, assistant.*

IOWA WEATHER AND CROP SERVICE.

Temperature.—The mean was 3.0 below the normal; maximum, 96, at Glenwood, 9th; minimum, 26, at Atlantic, 2d; greatest monthly range, 63, at Atlantic and Glenwood; least monthly range, 42, at Delaware.

Precipitation.—The average was about 1.00 below the normal; greatest monthly, 5.82, at Carroll; least monthly, 1.65, at Sibley.

Wind.—Prevailing direction, northwest.—*J. R. Sage, Des Moines, director; G. M. Chappel, Local Forecast Official, Weather Bureau, assistant.*

KANSAS.

Temperature.—The mean was 1.8 below the normal; maximum, 101, at Syracuse, 20th; minimum, 17, at Colby, 1st; greatest monthly range, 80, at Syracuse; least monthly range, 44, at Lawrence.

Precipitation.—The average was 1.51 below the normal; greatest monthly, 7.62, at Lawrence; least monthly, 0.40, at Shields.

Wind.—Prevailing direction, south.—*T. B. Jennings, Observer, Weather Bureau, Topeka, director.*

KENTUCKY.

Temperature.—The mean was about 3.0 below the normal; maximum, 96, at Louisa, 21st; minimum, 37, at Harrodsburg, 18th; greatest monthly range, 55, at Louisa; least monthly range, 32, at South Fork.

Precipitation.—The average was about 2.00 above the normal; greatest monthly, 10.41, at Franklin; least monthly, 2.59, at Catlettsburg.

Wind.—Prevailing direction, southwest.—*Frank Burke, Local Forecast Official, Weather Bureau, Louisville, director.*

LOUISIANA.

Temperature.—The mean was 1.0 above the normal; maximum, 98, at Lake Providence, 27th; minimum, 42, at Minden, 3d; greatest monthly range, 77, at Amite; least monthly range, 69, at Plain Dealing.

Precipitation.—The average was 1.78 above the normal; greatest monthly, 10.68, at Baton Rouge; least monthly, 2.07, at West End.

Wind.—Prevailing direction, south.—*R. E. Kerkam, Local Forecast Official, Weather Bureau, New Orleans, director.*

MARYLAND.

Temperature.—Maximum, 92, at Boettcherville and Millsboro, Del., 23d; minimum, 33, at Sunnyside, 10th; greatest monthly range, 55, at Millsboro, Del.; least monthly range, 37, at Cambridge.

Precipitation.—Greatest monthly, 6.66, at Fenby; least monthly, 3.06, at Milford, Del.

Wind.—Prevailing direction, southeast.—*Dr. William B. Clark, Johns Hopkins University, Baltimore, director; Prof. Milton Whitney, Maryland Agricultural College, secretary and treasurer; C. P. Cronk, Observer, Weather Bureau, in charge.*

MICHIGAN.

Temperature.—The mean was 3.5 below the normal; maximum, 90, at Rawsonville, 22d; minimum, 21, at Bellaire, 5th; greatest monthly range, 59, at Evart; least monthly range, 33, at Hillsdale.

Precipitation.—The average was 0.73 below the normal; greatest monthly, 4.96, at Benton Harbor; least monthly, 0.83, at Montague.

Wind.—Prevailing direction, northwest.—*E. A. Evans, Local Forecast Official, Weather Bureau, Detroit, director.*

MINNESOTA.

Temperature.—Maximum, 86, at Crookston, 31st; minimum, 19, at Pokegama Falls, 7th; greatest monthly range, 60, at Crookston; least monthly range, 41, at Duluth.

Precipitation.—Greatest monthly, 4.91, at Rolling Green; least monthly, 1.06, at Moorhead.

Wind.—Prevailing directions, north and northwest.—*E. A. Beals, Observer, Weather Bureau, Minneapolis, director.*

MISSISSIPPI.

Temperature.—The mean was 1.0 below the normal; maximum, 97, at Water Valley, 26th; minimum, 42, at Jackson, 3d; greatest monthly range, 68, at Agricultural College; least monthly range, 24, at Biloxi.

Precipitation.—The average was 3.95 above the normal; greatest monthly, 13.49, at Batesville; least monthly, 2.79, at Biloxi.

Wind.—Prevailing direction, southwest.—*R. J. Hyatt, Local Forecast Official, Weather Bureau, Vicksburg, director.*

NEBRASKA.

Temperature.—Maximum, 101, at Superior, 14th; minimum, 18, at Indianola, 22d.

Precipitation.—Greatest monthly, 7.49, at Kearney; least monthly, 0.72, at Fort Robinson.

Wind.—Prevailing direction, northwest.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Observer, Weather Bureau, assistant.*

NEVADA.

Temperature.—The mean was 3.9 below the normal; maximum, 98, at Tuscarora, 15th; minimum, 18, at Tuscarora, 7th, and at Stofiel, 26th.

Precipitation.—The average was 0.66 below the normal; greatest monthly, 1.27, at Stofiel; least monthly, 0.00, at Golconda, Elko, Mill City, Hawthorne, and Belleville.

Wind.—Prevailing direction, southwest.—*Prof. Charles W. Friend, Carson City, director; F. A. Carpenter, Observer, Weather Bureau, assistant.*

NEW ENGLAND.

Temperature.—The mean was 0.6 below the normal; maximum, 98, at Brookline, 23d; minimum, 25, at Farmington, 9th, and at Hartland, 8th; greatest monthly range, 65, at Farmington and Plymouth; least monthly range, 32, at Nantucket and Block Island.

Precipitation.—The average was 1.93 above the normal; greatest monthly, 8.82, at Cornish; least monthly, 1.15, at Mattawamkeag.

Wind.—Prevailing direction, southwest.—*J. Warren Smith, Observer, Weather Bureau, Boston, director.*

NEW JERSEY.

Temperature.—The mean was 0.8 below the normal; maximum, 95, at New Brunswick, 23d; minimum, 29, at Pochunk Mountain, 6th; greatest monthly range, 59, at Allaire; least monthly range, 34, at Atlantic City.

Precipitation.—The average was 0.23 above the normal; greatest monthly, 6.38, at Butler; least monthly, 2.55, at Hammonton.

Wind.—Prevailing direction, southwest.—*E. W. McGann, Observer, Weather Bureau, New Brunswick, director.*

NEW MEXICO.

Temperature.—Maximum, 96, at Socorro, 31st; minimum, 10, at Fort Wingate, 1st; greatest monthly range, 65, at Springer and Chama; least monthly range, 45, at La Luz.

Precipitation.—Greatest monthly, 3.92, at Halls Peak; least monthly, 0.45, at Albuquerque.—*H. B. Hersey, Observer, Weather Bureau, Santa Fe, director.*

NEW YORK.

Temperature.—The mean was 0.6 below the normal; maximum, 93, at Rome, 12th and 14th, and at Madison Barracks, 23d; minimum, 25, at Utica, 20th; greatest monthly range, 65, at Utica; least monthly range, 42, at Buffalo and Fort Niagara.

Precipitation.—The average was 2.55 above the normal; greatest monthly, 8.44, at Port Jervis; least monthly, 3.26, at Plattsburg Barracks.

Wind.—Prevailing direction, west.—*Prof. E. A. Fuytes, Dean of the College of Civil Engineering, Cornell University, Ithaca, director; R. M. Hardinge, Observer, Weather Bureau, assistant.*

NORTH CAROLINA.

Temperature.—The mean was 2.0 below the normal; maximum, 100, at Rockingham, 22d; minimum, 32, at Blowing Rock, 11th; greatest monthly range, 59, at Rockingham; least monthly range, 28, at Hatteras.

Precipitation.—The average was 2.28 above the normal; greatest monthly, 9.75, at Lewiston; least monthly, 2.86, at Tarboro.

Wind.—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Observer, Weather Bureau, assistant.*

NORTH DAKOTA.

Temperature.—The mean was 1.1 below the normal; maximum, 97, at Sykeston, 18th; minimum, 19, at Mayville, 2d; greatest monthly range, 72, at Dawson; least monthly range, 49, at Moorhead, Minn.

Precipitation.—The average was 0.64 below the normal; greatest monthly, 4.79, at Fort Buford; least monthly, 0.40, at Dawson.

Wind.—Prevailing direction, southeast.—*W. H. Fallon, Observer, Weather Bureau, Bismarck, director.*

OHIO WEATHER AND CROP SERVICE.

Temperature.—The mean was 1.3 above the normal; maximum, 94, at McArthur, 14th, and at Portsmouth, 20th, 21st, and 22d; minimum, 23, at Chicago Junction, 7th; greatest monthly range, 62, at McArthur; least monthly range, 32, at New Berlin.

Precipitation.—The average was 0.37 above the normal; greatest monthly, 11.67, at Hillhouse; least monthly, 1.24, at Toledo.

Wind.—Prevailing direction, southwest.—*L. N. Bonham, Columbus, director; C. M. Strong, Observer, Weather Bureau, assistant.*

OKLAHOMA.

Temperature.—Maximum, 104, at Mangum, 30th; minimum, 29, at Gate City, 1st; greatest monthly range, 55, at Ponca; least monthly range, 20, at Stillwater.

Precipitation.—Greatest monthly, 6.04, at Sallisaw; least monthly, 1.04, at Gate City.

Wind.—Prevailing direction, south.—*J. I. Widmeyer, Observer, Weather Bureau, Oklahoma City, director.*

OREGON.

The month was the coldest May on record, and a marked absence of sunshine and cold weather retarded vegetation and seriously injured the fruit crop.

Temperature.—The mean was 3.3 below the normal; maximum, 90, at Canyon City and New Bridge, 13th; minimum, 21, at Diamond, 24th; greatest monthly range, 64, at Happy Valley; least monthly range, 22, at Bandon.

Precipitation.—The average was 0.74 above the normal; greatest monthly, 5.68, at Glenora; least monthly, trace, at Burns.

Wind.—Prevailing direction, southwest.—*Hon. H. E. Hayes, Master State Grange, Portland, director; B. S. Pague, Local Forecast Official, Weather Bureau, assistant.*

PENNSYLVANIA.

Temperature.—The mean was 1.3 below the normal; maximum, 93, at Kilmer, 23d; minimum, 26, at Wellsboro, 8th; greatest monthly range, 60, at Hollidaysburg; least monthly range, 44, at West Chester.

Precipitation.—The average was 1.45 above the normal; greatest monthly, 9.20, at Blue Knob; least monthly, 2.92, at Philadelphia.

Wind.—Prevailing direction, northwest.—*Under direction of the Franklin Institute, Philadelphia; W. P. Tatham, director; H. L. Ball, Observer, Weather Bureau, assistant.*

SOUTH CAROLINA.

Temperature.—Maximum, 97, at Kitchings Mills, 26th and 27th, and at Cheraw, 27th; minimum, 38, at Greenville, 4th.

Precipitation.—Greatest monthly, 6.84, at Allendale; least monthly, 2.84, at Batesburg.—*J. H. Harmon, Observer, Weather Bureau, Columbia, director.*

SOUTH DAKOTA.

Temperature.—The mean was 1.4 below the normal; maximum, 98, at Oelrichs, 13th; minimum, 16, at Ashcroft, 1st; greatest monthly range, 76, at Oelrichs; least monthly range, 46, at Mellette.

Precipitation.—The average was 0.67 below the normal; greatest monthly, 5.94, at Salem; least monthly, trace, at Oelrichs.

Wind.—Prevailing direction, northwest.—*S. W. Glenn, Local Forecast Official, Weather Bureau, Huron, director.*

TENNESSEE WEATHER AND CROP SERVICE.

Temperature.—The mean was 0.4 below the normal; maximum, 96, at Covington, 26th; minimum, 36, at Springdale, 18th; greatest monthly range, 52, at Springdale and Milan; least monthly range, 36, at Florence Station.

Precipitation.—The average was 3.70 above the normal; greatest monthly, 14.69, at Lynnville; least monthly, 3.73, at Harrowgate.

Wind.—Prevailing direction, south.—J. B. Marbury, Local Forecast Official, Weather Bureau, Nashville, director.

TEXAS.

Temperature.—The mean was 0.7 below the normal; maximum, 108, at Wichita Falls, 30th; minimum, 21, at Coldwater, 1st; greatest monthly range, 76, at Coldwater; least monthly range, 25, at Flower Bluff.

Precipitation.—The average was 0.07 below the normal; greatest monthly, 9.10, at College Station; least monthly, 0.26, at Luling.

Wind.—Prevailing direction, south.—D. D. Bryan, Galveston, director; I. M. Cline, Local Forecast Official, Weather Bureau, assistant.

UTAH.

Temperature.—The mean was 4.0 below the normal; maximum, 96, at Saint George, 11th and 16th; minimum, 12, at Scofield, 7th; greatest monthly range, 71, at Soldier Summit; least monthly range, 42, at Heber.

Precipitation.—Greatest monthly, 1.73, at Logan; least monthly, trace, at Loa.

Wind.—Prevailing direction, southwest.—G. N. Salisbury, Observer, Weather Bureau, Salt Lake City, director.

VIRGINIA.

Temperature.—Maximum, 94, at Nottoway, 22d; minimum, 27, at Dale Enterprise, 10th; greatest monthly range, 58, at Dale Enterprise; least monthly range, 39, at Salem.

Precipitation.—Greatest monthly, 8.68, at Stanardsville; least monthly, 4.02, at Columbia.

Wind.—Prevailing direction, south.—Dr. E. A. Craighill, Lynchburg, director; J. N. Ryker, Observer, Weather Bureau, assistant.

WASHINGTON.

Temperature.—The mean was 2.8 below the normal; maximum, 85, at Moxee, 26th; minimum, 31, at Moxee, 9th; greatest monthly range, 54, at Moxee; least monthly range, 20, at Tatoosh Island.

Precipitation.—The average was 1.19 above the normal; greatest monthly, 6.73, at Neah Bay; least monthly, 1.03, at Pine Hill.

Wind.—Prevailing direction, southwest.—H. F. Alciatore, Observer, Weather Bureau, Olympia, director.

WEST VIRGINIA.

Temperature.—Maximum, 92, at Central Station, 21st; minimum, 30, at Davis, 10th; greatest monthly range, 57, at Buckhannon; least monthly range, 40, at New Martinsville.

Precipitation.—Greatest monthly, 7.85, at Bluefield; least monthly, 2.65, at Point Pleasant.

Wind.—Prevailing direction, west.—W. W. Dent, Observer, Weather Bureau, Parkersburg, director.

WISCONSIN.

Temperature.—The mean was about 4.0 below the normal; maximum, 90, at Koepenick, 31st; minimum, 17, at Butternut, 7th.

Precipitation.—The average was below the normal, except in several north-central counties; greatest monthly, 5.23, at Baraboo; least monthly, 0.49, at Cadiz.—W. L. Moore, Local Forecast Official, Weather Bureau, Milwaukee, director.

WYOMING.

Temperature.—Maximum, 91, at Lusk, 17th; minimum, 16, at Laramie, 1st; greatest monthly range, 69, at Lusk and Sundance; least monthly range, 52, at Saratoga.

Precipitation.—Greatest monthly, 3.49, at Sundance; least monthly, 0.31, at Evanston.

Wind.—Prevailing direction, west.—E. M. Ravenscraft, Observer, Weather Bureau, Cheyenne, director.

METEOROLOGICAL TABLES.

Meteorological record of voluntary and other co-operating observers, May, 1893.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
Alabama.					Alabama—Cont'd.				
Alice	33	50	73.1	Ins.	Union Springs b f	93	48	71.4	10.68
Bermuda * f	89	50	71.6	4.36	Uniontown	92	54	71.8	10.88
Brewton f	93	47	71.5	7.30	Valley Head f	87	38	64.0	5.72
Camden * f	91	60	71.4	7.10	Warrior f				9.68
Carrollton f			69.8	8.14	Wilsonville f				6.22
Citronelle f	89	57	74.1	7.57	Alaska.				
Claiborne Landing f				9.40	Metlakatla f	68	29	47.6	10.84
Cordova f				7.20	Arizona.				
Daphne f	86	56	73.0	6.26	Antelope Valley f				0.61
Decatur a f				8.16	Aris. Can. Co. Dam. f	101			1.12
Decatur b f	93	40	67.6	8.16	Benson * f	98	60	79.3	0.76
Demopolis f				9.71	Buckeye f	110	46	74.2	0.50
Elba * f	88	54	72.2	6.58	Calabasas f	94	39	67.6	0.50
Eufrasia f	91	52	72.7	5.51	Casa Grande * f	101	60	80.3	0.07
Eufrasia b f	91	52	73.4	5.19	Chiricahua Mts f				1.76
Eufrasia c f				4.92	Dragon f				1.40
Evergreen f	92	49	72.6	4.71	Dragon Summit * f	90	50	74.2	1.62
Florence a f				7.77	Eagle Pass * f				0.69
Florence b f	90	44	69.0	10.28	Florence f	103	42	73.8	0.29
Fort Deposit f	95	51	72.5	8.10	Fort Apache	85	30	58.9	2.18
Gadsden f				8.72	Fort Bowie f	89	45	68.3	0.36
Geneva f	94	56	76.0	4.03	Fort Grant	91	40	67.7	0.36
Greensboro f	89	50	70.2	11.85	Fort Huachuca	91	41	66.8	0.26
Healing Springs f	96			11.47	Fort Mohave	107	52	78.2	0.40
Highland Home f	90	52	71.3	6.55	Gila Bend a f	102	50	79.6	0.40
Livingston a f	87	50	69.4	8.43	Gila Bend b * f	102	60	78.6	
Livingston b f	94	48	71.9	8.78	Holbrook f	89	26	60.5	1.39
Lynn a f				8.34	Maricopa * f	90	64	82.8	0.64
Lynn b f	89	45	70.8	9.07	Mount Huachuca f	93	40	67.5	0.60
Maple Grove f	88	40	66.9	8.20	Natural Bridge f				1.95
Marion f	93	50	72.0	10.80	Oracle f	88	43	67.8	
Maysville f	90	50	67.5	6.21	Oro				1.80
Mount Willing f	92	52	72.9	9.12	Palomas f	108	42	75.1	0.80
Newbern f	90	52	71.0	8.45	Pantano * f	98	57	75.8	0.50
Newbern g f	93	41	67.4	6.60	Payson * f	82	37	59.0	1.47
Newton f	92	50	73.3	4.07	Peoria f	99	50	75.6	1.47
Opelika f	93	50	71.8	5.31	Phoenix a f	103	43	74.6	1.00
Oxanna * f	88	44	65.9	7.77	Red Rock * f	105	61	85.2	T
Pine Apple f	96	48	72.4	5.74	Reymert	95	45	71.1	0.78
Pushmataha f	88	54	72.8	10.27	Rye				1.50
Reima f				9.48	St. Helena R'h * f	95	52	70.4	0.67
Sturdevant f				4.10	San Carlos	99	36	69.2	0.00
Talladega f				6.32	San Simon * f	101	62	80.5	0.00
Tallassee Falls f				5.79	Signal f	99	47	73.3	0.60
Thomasville f	90	56	73.2	5.09	Texas Hill * f	108	55	77.8	0.00
Tuscumbia a * f	92	50	66.0	6.54	Tucson a f	103	46	75.2	1.09
Tuscumbia b f	93	46	70.0	6.09	Tucson b * f	98	36	71.8	0.95
Union f	88	54	71.0	13.05	Walnut Ranch * f	85	44	65.7	0.81
Union Springs a f	93	46	72.4	9.60	Whipple Barracks	81	20	54.8	0.88

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
Alabama—Cont'd.					California—Cont'd.				
Wilcox f				0.35	Anderson * f	93	40	64.2	1.54
Willcox * f	100	48	70.4	0.50	Antioch * f	90	52	65.2	0.41
Yuma * f	101	60	78.6	0.31	Arcata f	75	35	57.0	2.31
Arkansas.					Arlington Heights	94	54	64.2	0.06
Arkadelphia f				10.20	Athlone * f	93	43	69.9	0.00
Arkansas City f				5.77	Auburn * f	90	47	64.1	0.78
Ashdown f	92	45	68.4	10.36	Bakersfield a * f	96	59	75.0	0.00
Bee Branch f	86	44	66.2	11.39	Bakersfield b f	94	58	65.2	0.00
Brinkley f	87	49	68.2	15.20	Ballast Point L. H.				0.20
Camden a f				10.80	Barstow f	92	48	70.8	T
Camden b f	89	50	69.1	7.81	Beaumont * f	81	47	63.4	0.00
Conway * f	84	52	67.8	11.32	Belmont * f	82	43	61.4	
Corning f	91	41	67.5	6.35	Berendo * f	96	60	75.7	0.00
Dallas f	85	44	67.8	10.00	Berkeley	80	44	58.0	0.26
Dardanelle f				13.25	Biggs				1.81
Fayetteville f	85	41	64.2	10.90	Bishop Creek * f	95	50	70.3	0.00
Forrest f	90	50	70.9	15.44	Boca * f	77	25	47.1	1.35
Fulton f				10.18	Borden * f	92	54	71.3	0.00
Gaines Landing f				5.82	Boulder Creek * f	89	40	58.5	0.68
Hamburg	88	50	70.8	5.91	Brentwood * f	90	56	68.0	0.40
Helena a f				10.68	Brighton * f	92	47	68.2	0.60
Helena b f	94	48	70.1	14.75	Byron * f	92	54	69.0	0.38
Hot Springs	94	39	68.4	10.10	Caliente * f	90	50	70.3	0.00
Jonesboro	88	50	68.0	10.03	Calistoga * f	92	48	63.9	0.86
Keesee Ferry f	92	38	65.6	5.27	Campo Seco				0.41
Kirby f	86	44	68.0	5.21	C. Mendocino L. H.				2.02
Londoke * f	92	33	72.2	19.88	Capitola * f	80	52	62.8	0.00
Madding f				10.00	Castroville * f	72	51	58.4	0.15
Malvern	86	45	66.6	7.43	Centerville * f	88		57.6	0.47
Marcella	90	53	72.6	8.97	Chico * f	92	42	64.8	1.34
Melbourne f	90	40	68.6	7.34	Chino * f	94	54	67.2	T
Mount Nebo f	82	44	64.0	11.11	Cisco * f	96	78	38.1	1.60
New Gascony * f	87	54	69.5	8.46	Citrus * f	96		66.8	0.00
Newport a f				9.13	Claremont f	90	38	60.6	0.17
Newport b f	93	52	69.8	8.36	Cloverdale * f	93	44	66.9	1.10
Newport c f	88	49	69.0	5.87	Colegrove				0.04
Oscola f	89	50	67.0	15.16	Colfax * f	82	40	59.8	1.30
Pine Bluff	92	50	71.7	6.19	Colton * f	98	44	65.8	0.00
Prescott	88	50	68.0	10.07	Colusa f	90	40	66.0	1.43
Rogers f				7.23	Corning * f	96	48	67.2	0.22
Russellville f	92	45	68.1	11.46	Crescent City				3.60
Searcy f	90	49	67.4	10.77	Crescent City L. H.				3.47
Stuttgart f	90	50	69.8	9.55	Crofton * f	92	53	71.2	0.38
Texasarkana f	94	47	73.2	5.97	Davisville a * f	90	55	71.0	1.56
Washington b * f	88	48	69.5	11.00	Davisville b	92	48	66.8	0.82
Wiggs				8.19	Delano * f	89	61	70.9	0.00
Winslow * f	77	45	64.0	7.23	Delta * f	95	45	64.7	3.30
California.					Downey * f	92	52	66.6	0.07
Alcalde * f	103	49	72.6	0.00	Drytown	93	56	61.2	1.57
Anaheim * f	92	45	65.2	0.00	Duarte	96	45	65.0	0.40

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
California—Cont'd.	°	°	°	Ins.	California—Cont'd.	°	°	°	Ins.
Dunnigan* ¹	52	38	70.1	0.69	Ontario* ¹	94	50	69.0	0.05
Dunsmuir* ¹	82	58	56.9	4.06	Orangevale†	94	44	65.3	0.65
East Brother L. H.				0.14	Orland* ¹	104	56	71.0	0.00
Edgewood* ¹	73	34	52.2	0.95	Oroville* ¹	90	36	68.2	1.17
Edmonton* ¹	81	28	47.1	3.23	Oroville‡	90	57	73.2	1.17
Eldorado* ¹	91	49	64.3	1.51	Pajaro* ¹	80	37	54.6	0.45
Elmira* ¹	95	46	67.3	0.76	Palermo†	92	38	63.8	1.60
El Verano* ¹	87	51	63.8	0.66	Palm Springs* ¹	102	66	80.3	0.10
Emigrant Gap* ¹	76	38	50.9	0.69	Pasadena* ¹	88*	40	58.9	0.20
Esparto* ¹	94	52	70.2	0.53	Paso Robles* ¹	90	48	65.1	0.27
Evergreen				0.49	Petaluma* ¹	89	51	61.9	0.05
Exeter* ¹	96	55	68.6	0.00	Piedras Blancas L.H.				0.17
Fall Brook* ¹	94	46	61.0	0.29	Pigeon Point L. H.				0.40
Farmington* ¹	95	48	68.4	0.40	Placerville* ¹	89	42	60.9	1.34
Felton* ¹	98	38	61.9	0.50	Placerville‡	87	35	57.0	1.71
Fernando* ¹	96	41	64.2	0.08	Pleasanton* ¹	100	50	63.3	0.70
Florence* ¹	86	36	66.7	0.00	Pleasanton‡	90	38	60.2	0.30
Florin* ¹	96	43	62.6	0.75	Pt. Ano Nuevo L. H.				0.25
Folsom City* ¹	92	55	70.0	0.77	Point Arena L. H.				1.23
Folsom City‡	94	54	68.3	0.72	Point Bonita L. H.				0.06
Fort Bidwell	81	26	50.3	1.66	Point Fermin L. H.				0.05
French Corral	86	39	62.8	0.73	Point George L. H.				0.13
Fresno* ¹	90	48	68.7	0.00	Point Loma L. H.				0.53
Fruto* ¹	93	53	69.6	0.80	Point Montara L. H.				0.23
Galt* ¹	90	52	68.5	0.62	Point Pinos L. H.				0.91
Georgetown†	82	34	58.2	1.51	Point Reyes L. H.				0.25
Gilroy* ¹	87	48	62.3	0.32	Point Sur L. H.				0.00
Girard* ¹	90	40	60.8	0.00	Pomona* ¹	95	42	61.6	0.00
Glendora				0.54	Porterville* ¹	97	61	76.1	0.00
Glen Ellen* ¹	90	40	62.7	0.36	Poway* ¹	91	50	59.1	0.00
Goshen* ¹	96	48	68.4	0.00	Puente* ¹	95	52	66.5	0.10
Grass Valley* ¹				1.30	Ravenna* ¹	91	55	67.3	0.60
Gridley* ¹	92	41	64.9	2.10	Red Bluff* ¹	96	52	61.9	0.40
Guinda				0.65	Redding* ¹	96	48	69.1	1.35
Haywards* ¹	73	49	48.6	0.12	Redding‡	92	40	63.8	1.86
Headlands* ¹	88	40	59.4	1.02	Redlands* ¹	92	50	66.0	0.00
Hollister	88	39	58.7	0.32	Repress* ¹	84	45	63.0	1.28
Hornbrook* ¹	83	40	58.2	1.20	Rialto	97	42	65.4	0.06
Humboldt L. H.				2.08	Rio Vista	91	43	64.4	0.61
Huron* ¹	90	50	69.9	0.00	Riverside* ¹	95	42	64.9	0.00
Hydesville†	77	34	51.4	2.18	Rumley* ¹	94	48	69.7	0.65
Independence†	91	37	63.7	0.00	Rumsey* ¹	95	58	72.5	0.77
Indio* ¹	103	64	79.5	0.00	Sacramento* ¹	84	38	60.0	1.20
Ione* ¹	92	48	67.5	0.39	Sacramento‡	90	52	66.1	0.89
Iowa Hill* ¹	86	40	60.3	1.44	Sacramento‡	80	54	66.2	0.99
Irvington†	85	35	60.8	0.55	Salinas* ¹	70	54	61.2	0.17
Jolon				0.22	Salton* ¹	109	60	79.2	0.70
Julian†	84	36	58.4	0.62	San Ardo* ¹	91	42	60.5	0.15
Keeler* ¹	84	49	66.7	0.00	San Ardo‡	92	44	61.2	0.22
Keene* ¹	85	45	61.4	0.00	San Bernardino†	92	42	64.1	0.03
Kennedy Gold	88	37	59.1	1.23	San Gabriel* ¹	95	52	67.2	0.00
Mine†					Sanger Junction* ¹	100	50	71.8	0.00
King City* ¹	84	42	57.5	0.27	San Jacinto* ¹	95	36	64.0	0.37
Kingsburg* ¹	95	57	71.8	0.00	San Jose* ¹	85	45	58.7	0.30
Knights Landing* ¹	92	52	70.1	0.98	San Jose‡	84	34	57.9	0.25
Kono Tave	84	44	61.2	0.66	San Luis L. H.				0.08
Lagrange* ¹	94	43	66.3	0.05	San Luis Obispo* ¹	83	52	62.6	0.00
Lathrop* ¹	89	54	68.2	0.20	San Mateo* ¹	90	44	64.1	0.09
Laurel* ¹	87	44	62.3	0.58	San Miguel* ¹	91	52	66.3	0.00
Lemoore* ¹	96	52	70.7	0.00	San Pedro* ¹	88	56	75.0	0.09
Lick Observatory†	72	32	51.9	0.95	Santa Ana* ¹	82	46	59.2	0.00
Lime Point L. H.				0.35	Santa Barbara* ¹	79	56	64.3	0.00
Livermore* ¹	86	42	60.8	0.73	Santa Barbara‡				0.03
Livingstone* ¹	88	52	73.1	0.00	Santa Clara* ¹	83	40	58.8	0.38
Lodi	88	42	63.2	0.92	Santa Cruz* ¹	76	45	58.8	0.25
Long Beach* ¹	88	50	66.0	0.00	Santa Cruz‡	85	45	58.5	0.30
Los Angeles* ¹	96	50	66.0	0.11	Santa Cruz L. H.				0.39
Los Banos* ¹	92	45	65.5	0.66	Santa Margarita* ¹	85	38	60.6	0.00
Los Gatos* ¹	84	49	68.4	0.71	Santa Maria* ¹	81	37	56.2	0.05
Los Gatos‡	81	41	58.4	0.30	Santa Monica* ¹	98	55	64.2	0.00
Mammoth Tank* ¹	106	58	84.3	0.40	Santa Paula* ¹	92	52	64.8	0.00
Mare Island L. H.				0.18	Santa Rosa* ¹	82	56	73.8	0.80
Mariposa* ¹	85	45	62.1	0.45	Selma* ¹	94	56	71.4	0.00
Martinez* ¹	80	46	57.1	0.45	Shasta†	82	32	52.0	5.61
Marysville* ¹	92	50	69.3	1.10	Shingie Springs* ¹	82	43	64.0	0.95
Menlo Park* ¹	86	44	57.2	0.23	Sims* ¹	87	30	57.3	4.57
Merced* ¹	86	40	57.2	0.00	Sisson* ¹	80	34	52.3	2.66
Middletown* ¹	94	50	67.6	1.49	Soledad* ¹	86	44	61.7	0.39
Modesto* ¹	95	57	71.6	0.00	Sonoma* ¹	85	42	57.1	0.00
Mohave* ¹	90	55	70.4	0.00	S. E. Farallon L. H.				0.45
Mokelumne Hill* ¹	94	50	62.4	0.77	South Vallejo* ¹	83	44	62.8	0.21
Monson* ¹	85	40	58.7	0.44	Spadra* ¹	92	50	64.2	0.00
Montague* ¹	72	44	56.8	0.46	Stockton* ¹	96	45	68.0	0.30
Monterey* ¹	76	48	59.7	0.00	Stockton‡	96	54	64.0	0.16
Monterey (Hotel del Monte)* ¹				0.30	Suisun City* ¹	91	52	64.2	0.67
Mountain View				0.39	Susana†	80	37	54.4	0.00
Mount Glenwood* ¹	91	53	69.0	0.39	Sutter Creek* ¹	82	30	56.0	1.24
Napa City* ¹	83	42	61.4	0.49	Tehachapi* ¹	75	40	57.7	0.00
Napa City‡	90	45	61.8	0.20	Tehachapi‡	82	30	54.5	0.75
National City†	103	54	78.6	0.30	Tehama* ¹	90	48	65.6	0.12
Needles* ¹	101	54	79.6	0.30	Templeton* ¹	82	47	63.9	2.34
Needles‡				1.33	Towles* ¹	93	34	59.1	0.00
Nevada City†	82	33	55.5	0.39	Tracy* ¹	95	56	72.3	0.00
New Almaden* ¹	86	49	61.1	0.39	Traver* ¹	92	50	69.8	0.00
Newcastle†	86	40	61.8	0.87	Tropic* ¹	90	53	64.0	0.00
Newcastle‡	90	45	65.1	0.19	Truckee* ¹	74	28	45.4	1.79
Newhall* ¹	88	51	64.7	0.34	Tulare* ¹	92	52	70.2	0.00
Newman* ¹	94	50	72.3	0.25	Tulare‡	104	40	68.6	0.00
Niles* ¹	82	43	59.9	0.00	Turlock* ¹	93	56	78.4	0.20
Northoff* ¹	91	38	60.0	0.00	Turlock‡	87	35	58.0	1.63
Norwalk* ¹	94	50	67.4	0.21	Ukiah†	87	35	58.0	1.04
Oakdale* ¹	93	44	63.8	0.31	Upper Lake	85	37	59.2	
Oakland* ¹	79	45	57.7	0.31					
Oakland‡	74	52	61.4	0.31					
Ogilby* ¹	109	63	83.4	0.38					

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
California—Cont'd.	°	°	°	Ins.	Colorado—Cont'd.	°	°	°	Ins.
Upper Mattole* ¹	85	40	55.8	4.18	Zuck				0.85
Vacaville* ¹	94	50	66.0	0.55	Connecticut.				
Vacaville* ¹	92	54	67.3	0.32	Canton	85	34	56.2	7.52
Valley Springs* ¹	93	50	67.9	0.10	Colchester	87	35	56.7	7.97
Ventura†	91	44	61.2	0.04	Falls Village				5.02
Vina* ¹	94	45	67.3	0.70	Hartford‡				7.44
Volcano Springs* ¹	117	60	88.1	T.	Hartford‡	84	40	57.9	
Walnut Creek	91	44	64.0	0.35	Lake Konomoc				7.17
West Butte* ¹	88	51	71.4	0.32	Lebanon				8.19
Westley* ¹	90	57	71.4	0.32	Middletown	87	34	58.6	7.20
Wheatland	91	41	64.4	0.72	New Hartford a*† ¹	82	32	52.1	6.08
Whittier* ¹	86	37	68.1	0.20	New Hartford b.				7.16
Williams a* ¹	93	45	69.0	1.14	North Franklin				8.34
Willows a†	93	47	67.4	0.50	N. Grosvenor Dale†	86	30	55.2	6.03
Willows b* ¹	93	55	68.2	0.45	Norwalk b.	87	34	56.6	6.84
Winchester†	98	37	65.4	0.08	South Manchester				5.03
Winters* ¹	93	54	71.1	0.37	Stevenson				7.63
Woodland* ¹	88	46	62.0	0.61	Storrs†	85	36	54.5	7.12
Yreka†	83	30	54.6	0.87	Thompson†	82*	37	56.4	
Yuba City* ¹	88	54	69.8	1.07	Voluntown† ¹	85	32	55.8	7.10
Colorado.				0.93	Wallingford†				8.06
Abbott				0.93	Waterbury	85	38	57.5	6.44
Agate* ¹	90		48.6	0.70	West Simsbury				6.75
Alma†	93	3	56.7	0.52	Delaware.				
Amherst†				1.44	Dover† ¹	90	42	60.7	3.50
Arboles				0.07	Kirkwood* ¹	90		58.0	
Avoca				3.00	Milford†	89	41	62.4	3.06
Bennet* ¹	96	38	61.9	3.37	Millboro†	92	37	61.4	3.54
Breckenridge†	67	0	36.8	2.88	Seafood† ¹	89	36	61.4	3.80
Brush†	96	30	55.0	2.12	District of Columbia.				
Byers* ¹	90	30	55.9	1.06	Dist'ng Reserv'r* ¹	86	45	62.3	4.81
Canyon†	91	29	58.1	0.85	Ree'ng Reserv'r* ¹	85	46	62.6	4.77
Castle Rock†	88	25	54.2	1.99	West Washington†	92	39	64.4	5.23
Cheyenne Wells*† ¹	94	20	53.9	1.10	Florida.				
Chivington†				0.75	Amelia†	88	55	73.8	2.47
Climax*† ¹	51	10	30.3	2.40	Bristol†	95	50	79.8	3.89
Collbran				0.96	Brookville	88	62	75.6	4.05
Como (near)† ¹	68	12	39.6	1.24	Chattahoochee				
Cope†	89	48	55.5	3.88	Landing†				3.27
Cumbres†	61	8	38.2	1.75	Clermont† ¹	97	58	76.8	4.91
Deer Trail* ¹	88	32	54.1	3.25	De Land b.	93	53	75.6	
Delta†	93	24	57.6	0.00	Eustis† ¹	94	58	75.9	2.83
Downing†	98	20	61.6	3.42	Federal Point†	91	53	74.1	6.83
Dumont	74	18	48.4	2.62	Fort Menden†	90	54	70.4	7.14
East Dale.				1.15	Gainesville	98	55	77.2	3.15
First View* ¹	92		57.8	1.43	Grasmere	90	52	76.1	
Fort Collins†	89	23	52.3	1.92	Green Cove Sp'gs†	93	55	75.4	2.99
Fort Collins (near)				1.60	Homeland†	92	52	73.7	7.98
Fruita† ¹	95	34	61.6	0.23	Hypoluxo*† ¹	91	62	75.8	6.12
Garnett				0.41	Kissimmee†	94	54	79.0	4.51
Gaynor				2.17	Lake City†	93	56	77.4	3.34
Glen Eyrie†	81	27	52.5	0.73	Manatee† ¹	93	54	76.4	4.18
Gold Hill* ¹	76	17	46.8	2.30	Merritts Island†	92	62	76.6	4.25
Grand Junction†	90	37	60.6	0.79	Moseley Hall†	92	58	76.2	3.44
Greeley†		24*		1.27	Mullet Key†	96	65	77.8	2.09
Greenhorn†	91	28	54.8	1.10	Myers† ¹	90	62	75.7	5.63
Grover†	91	13	50.9	1.34	New Smyrna†	90	49	74.0	1.65
Hugo* ¹	94	29	58.8	2.50	Ocala*† ¹	93	64	75.1	3.47
Hugo (near)†	91	21	53.0	1.60	Orlando†	90	52	73.2	5.31
Husted†	86	24	52.4	2.30	Oxford*† ¹	93	64	76.2	1.97
Julesburg†	92	20	56.4	3.37	Plant City†	97	51	76.0	7.18
Kirk				2.60	St. Andrews Bay†	96	56	78.4	3.55
Kitt Carson* ¹	90	35	59.3	1.30	Saint Francis B'ks.	88	56	73.9	4.03
La Jara†	78	26	52.3	0.90	St. Petersburg† ¹	93	58	77.5	2.53
La Porte				2.11	Tallahassee† ¹	86	56	73.6	4.28
Las Animas†	93	30	59.2	0.09	Tarpon Springs†	90	57	76.6	1.64
Lavender†	78	16	49.8	0.46	Georgia.				
Lay* ¹	83	28	50.0	1.38	Adairville†	93	42	68.2	6.47
Le Roy*† ¹	91	25	54.0	2.73	Alapaha†	92	48	72.7	6.34
Leslie	89			1.76	Albany†	94*	51*	72.8*	3.95
Livermore	84	30	50.8	1.97	Americus†	100	43	75.2	3.06
Loveland				1.78	Athens a†	90	48	69.2	4.05
McCoy†				1.12	Athens b†	94	43	69.0	4.27
Middle Box Elder.				1.14	Bainbridge a†	95	50	75.2	6.10
Minneapolis†	95	25	59.5	2.29	Bainbridge b†				3.03
Monte Vista a†	80	19	51.7	0.81	Blakely*† ¹	94	50	74.2	4.57
Monte Vista b.	77	17	49.2	0.71	Bragt†	95	44	71.8	4.68
Moraine†	73	14	43.7	1.76	Camak†	96	48	71.6	3.40
Pagoda (near)†	84	22	48.0	2.50	Canton†	92*	50*	72.8*	5.79
Paonia†				0.38	Columbus†	100	44	75.4	2.28
Parachute†	88	18	53.4	0.62	Cordele†	86	42	65.1	5.40
Red Cliff.				1.09	Dahlonega†	97	51	75.6	1.20
Rico.				0.18	Darien†	88	38	63.5	5.81
River Bend* ¹	90	36		1.50	Diamond†	96	44	71.2	5.80
Rocky Ford†	94	19	59.1	0.70	Dublin†	95	42	73.8	1.90
Saint Cloud	80	23	49.3	2.11	Eastman†	93	45	68.6	3.88
San Luis†				1.20	Elberton†	95	44	71.8	3.09
Scissors†				2.75	Fleming†	92	56	72.0	6.24
Seibert†				1.39	Forsyth* ¹	92	49	72.8	5.72
Sheridan Lake†				2.20	Fort Gaines†	90	42	67.1	3.80
Smoky Hill Mine†	78	17	45.6	2.24	Gainesville†	91	48	66.4	4.46
Springfield	68	16	39.2	4.35	Gillsville*† ¹	96	48	70.9	2.13
Stamford* ¹	80	8	46.9	2.60	Griffin	100	43	69.6	1.93
Steamboat Spring†	72*	9	41.1*	2.13	Hawkinsville†	91	56	71.4	4.15
Sunnyside	84	21	53.1	0.73	Hephzibah*† ¹	91	50	73.2	2.14
Thon†	97	29*	57.6*	0.46	Homerville†	92	45	67.9	4.37
T. S. Ranch†				0.20	Lagrange*† ¹	95	43	69.3	5.37
Twin Lakes				0.78	Louisville†	92	52	72.7	6.05
Wilas				4.30	Lumpkin†	94	50	74.2	2.41
Wallet†				3.66	McArthur†	92	56	73.8	3.22
Ward District				2.30	Macon a†				3.77
Watkins* ¹	82	26	56.2	2.47	Macon b†	88	45	65.6	4.62
Wildet.				2.12	Marietta† ¹	92	50	72.4	2.98
Wray† ¹	95	19	55.1	2.57	Marshallville†	91	46	68.8	3.73
Yuma				2.57	Milledgeville†				

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
<i>Georgia—Cont'd.</i>					<i>Indiana—Cont'd.</i>				
Millen†.....	96	42	71.0	4.19	Huntingburg* ¹	96	49	66.7	8.90
Monticello*† ¹	91	33	72.6	4.61	Jasper†.....	95	39	62.6	4.70
Morgan†.....	98	.....	.....	3.76	Jeffersonville ¹	98	43	63.6	4.94
Mount Vernon†.....	.....	.....	.....	3.89	Kokomo†.....	90	36	59.6	4.40
Newnan.....	94	45	68.6	3.14	Laconia* ¹	90	39	63.2	5.55
Piscola.....	93	55	75.4	3.42	Lafayette†.....	88	37	58.0	3.03
Point Peter* ¹	94	46	68.2	3.85	Logansport†.....	.....	.....	.....	3.97
Poulan†.....	97	46	72.1	4.26	Logansport b.....	88	38	59.0	4.10
Quitman b†.....	96	48	74.4	3.89	Madison†.....	.....	.....	.....	4.52
Resaca†.....	.....	.....	.....	4.52	Madison b.....	85	45	64.6	5.75
Reynolds†.....	.....	.....	.....	5.35	Marengo* ¹	86	44	62.4	9.00
Rome†.....	90	43	66.0	5.89	Marion†.....	84	39	59.8	4.40
Talbotton†.....	91	45	70.3	3.29	Markle†.....	89	34	58.1	3.01
Thomasville†.....	92	51	74.1	7.66	Mauzy.....	84	37	59.0	6.86
Toccoa†.....	92	45	68.1	5.25	Michigan City.....	91	35	56.2	4.51
Union Point†.....	91	47	68.6	5.36	Mount Vernon b.....	88	45	63.4	5.36
Washington†.....	90	52	70.5	4.10	Muncie* ¹	72 ⁴	46 ⁴	63.3 ⁴	1.45
Way Cross†.....	93	48	74.0	1.22	New Albany* ¹	85	44	63.1	3.70
Waynesboro†.....	97	47	72.8	4.03	Princeton*† ¹	91	44	61.6	5.40
West Point†.....	93	54	73.4	3.93	Rockville.....	88	36	59.6	4.61
Whitesburg†.....	.....	.....	.....	5.86	Rushville†.....	.....	.....	.....	5.37
<i>Idaho.</i>					<i>Indian Territory.</i>				
American Falls†.....	88	37	50.8	1.00	Seymour†.....	89	42	60.3	4.42
Boise Barracks.....	86	33	55.1	1.50	Shelbyville†.....	.....	.....	.....	5.43
Boonville City†.....	73	29	41.1	1.10	Terre Haute†.....	89	43	61.4	3.94
Delta†.....	83	29	49.4	2.38	Union City.....	92	37	56.5	3.55
Fort Sherman.....	83	31	51.8	3.75	Valparaiso†.....	92	31	53.5	5.00
Kootenai† ¹	79	31	51.8	1.15	Vevay†.....	89	40	63.2	3.81
Lake†.....	85	12	42.1	0.35	Vincennes†.....	.....	.....	.....	4.15
Moscow*† ¹	80	34	52.6	3.09	Worthington†.....	87	40	60.9	3.52
Paris†.....	81	36	48.3	1.82					
Payette†.....	91	31	56.8	0.44					
<i>Illinois.</i>									
Alton†.....	86	36	56.0	5.84	Colbert†.....	.....	.....	.....	3.68
Atwood* ¹	86	36	56.0	8.05	Enfaut†.....	.....	.....	.....	4.53
Aurora a†.....	87	31	54.4	2.10	Fort Supply.....	98	35	64.1	1.43
Aurora b†.....	86	34	55.5	3.12	Gwendale†.....	96	40	64.4	4.29
Beardstown†.....	83	31	52.8	6.18	Lehigh†.....	90	42	70.6	3.73
Bloomington†.....	93	37	59.2	5.40	Purell†.....	92	39	66.0	3.10
Bushnell†.....	87	37	59.2	4.36	Sallisaw† ¹	102	43	65.4	6.04
Carlinville†.....	90	37	62.0	4.59	Tulsa†.....	.....	.....	.....	7.65
Carlyle.....	.....	.....	.....	4.16	<i>Iowa.</i>				
Chester†.....	.....	.....	.....	4.13	Algona* ¹	86	36	57.0	2.31
Dixon†.....	84	31	56.0	2.99	Alta a†.....	86	31	54.6	3.65
East Peoria† ¹	86	35	58.0	4.01	Amana†.....	85	33	56.9	2.99
Effingham†.....	84	31	52.8	5.50	Ames b.....	83	31	55.0	4.33
Flora†.....	94	35	61.1	4.95	Ames c.....	83	31	55.0	4.33
Fort Sheridan†.....	91	25	51.2	3.07	Ames (near)* ¹	82	32	55.8	4.25
Galva†.....	86	31	57.1	2.45	Atlantic† ¹	89	26	55.8	3.54
Golconda†.....	85	47	65.3	4.92	Audubon.....	90	28	58.0	4.54
Greenville† ¹	94	40	61.9	5.61	Belle Plaine†.....	85	30	56.2	3.24
Griggsville†.....	89	42	61.4	5.65	Blueville* ¹	84	35	55.3	3.36
Havana†.....	88	42	60.5	5.45	Bonaparte† ¹	86	34	57.3	4.31
Hennepin†.....	88	32	57.8	1.60	Carroll†.....	84	31	56.7	5.82
Jordan Grove†.....	87	42	62.9	4.09	Cedar Rapids†.....	81	34	57.2	2.79
Kankakee†.....	86	31	55.4	4.83	Centerville†.....	88	38	60.1	5.04
Lagrange†.....	88	31	54.4	2.27	Charles City†.....	82	28	54.2	2.72
McLeansboro* ¹	95	44	62.6	5.90	Clarinda† ¹	82	32	58.6	3.17
Martinsville†.....	87	41	60.4	4.76	Clinton ¹	86	31	57.5	3.80
Mascoutah*.....	86	40	60.0	4.20	College Springs.....	85	34	58.5	3.61
Mattoon ¹	85	42	59.0	4.60	Corning b†.....	83	29	57.1	3.27
Mount Carmel†.....	.....	.....	.....	4.56	Cresco†.....	82	30	52.9	2.79
Muddy Valley* ¹	85 ⁴	46 ⁴	64.4 ⁴	5.11	Delaware* ¹	82	38	55.1	2.92
Olney a* ¹	90	42	63.5	4.14	Denison.....	.....	.....	.....	5.21
Olney b* ¹	94	43	60.2	4.60	Eagle Grove* ¹	84	34	55.4	4.35
Oregon†.....	86	37	61.3	4.43	Elkader†.....	85	29	55.2	2.63
Oswego* ¹	82	31	54.3	3.39	Emmetsburg†.....	85	30	55.3	3.34
Ottawa†.....	88	33	57.7	1.95	Esterville.....	82	30 ⁴	54.4 ⁴	3.51
Palestine† ¹	88	42	60.0	3.70	Fort Madison*† ¹	90	43	62.6	4.85
Pana*† ¹	92	42	62.5	4.70	Glenwood†.....	96	33	61.3	4.93
Paris†.....	90	38	59.0	4.70	Grand Meadow* ¹	80	36	54.7	3.16
Peoria a†.....	89	40	61.3	4.63	Greenfield†.....	85	31	56.6	3.70
Peoria b ¹	89	40	61.3	4.63	Grinnell†.....	77	34	54.9	2.85
Philo† ¹	86	35	58.2	6.38	Grundy Center ¹	82	34	54.7	2.71
Quincy†.....	86	41	62.3	7.59	Hampton ¹	83	29	53.7	2.94
Rantoul* ¹	82	34	53.3	3.09	Hawkeye.....	.....	.....	.....	3.18
Riley†.....	86	41	62.3	7.59	Hopkinton* ¹	80	39	57.4	3.35
Rockford ¹	92	33	55.6	3.09	Humboldt†.....	.....	.....	.....	2.66
Rushville.....	89	38	61.1	7.36	Independence† ¹	84	28	54.8	2.52
Saint John* ¹	90	38	61.1	7.36	Indianola†.....	83	30	58.0	4.78
Shawneetown†.....	79	32	57.0	3.77	Iowa City a†.....	85	31	57.4	1.79
Streator†.....	79	32	57.0	3.77	Iowa City b†.....	.....	.....	.....	1.90
Sycamore* ¹	91	33	54.8	3.25	Iowa Falls†.....	83	30	54.4 ⁴	3.48
Walnut†.....	91	33	55.5	1.65	Jefferson†.....	86	29	58.6	5.50
Warsaw†.....	.....	.....	.....	3.47	Keosauqua†.....	86	36	59.4	4.48
Watseka†.....	.....	.....	.....	5.43	Larrabee†.....	87	30	55.8	4.11
White Hall*† ¹	83	42	60.2	4.47	Le Claire†.....	.....	.....	.....	1.37
Winnebago†.....	83 ⁴	33 ⁴	53.6 ⁴	2.72	Logan†.....	86	32	58.5	4.72
<i>Indiana.</i>					<i>Missouri.</i>				
Angola* ¹	87	35	57.0	2.72	Maquoketa ¹	81	35	57.1	3.10
Ashtabula†.....	86	40	60.6	3.43	Marshall†.....	85	38	58.7	3.38
Bedford†.....	94	36	61.6	5.27	Mechanicsville.....	82	33	54.9	1.35
Butlerville†.....	89	35	60.8	4.56	Monticello*† ¹	83	38	55.5	2.57
Cambridge City†.....	84	31	58.2	6.73	Mount Ayr†.....	87	33	59.0	5.09
Columbia City* ¹	84	38	59.3	1.92	Mount Pleasant* ¹	85	37	57.4	3.55
Columbus* ¹	88	42	60.2	3.02	Mount Vernon* ¹	84	36	57.9	2.35
Connersville†.....	83	37	59.1	0.66	Murray†.....	85	32	56.8	4.44
Crawfordsville†.....	83	37	59.1	0.66	Newton.....	84	33	57.4	2.92
DeGonia Springs* ¹	85	46	63.4	5.80	Ossage*† ¹.....	.....	.....	.....	3.26
Delphi.....	85	35	55.5	3.12	Oskaloosa†.....	84	31	57.6	2.70
Evansville†.....	.....	.....	.....	7.29	Ovid†.....	.....	.....	.....	2.26
Farmland†.....	83	38	58.7	4.47	Panama†.....	82	33	56.7	5.17
Franklin* ¹	86	42	60.2	3.84	Richland* ¹	91	35	58.4	3.24
Hammond†.....	86	34	57.2	2.30	Rock Rapids.....	86	32	56.2	4.69
Hawpach*† ¹	84	32	54.5	3.21	Sac City†.....	80	33	51.5	2.35
					Seymour†.....	85	32	58.2	3.70
					Sibley.....	82	26	53.2	1.66

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Iowa—Cont'd.</i>					<i>Kentucky—Cont'd.</i>				
Storm Lake †	82	33	56.3	3.41	Middlesboro †	88	38	61.3	4.89
Tipton †	87	34	57.5	2.93	Mount Sterling †	86	39	59.5	3.62
Villisca †	85	34	59.7	2.90	Munfordville*†	85	47 ^a	63.0 ^a	4.87
Vinton* ¹	85	35	55.8	2.60	Paducah a †	89	47	66.1	7.33
Washington	92	35	59.9	1.74	Paducah b †	89	47	66.1	6.59
Webster City* ¹	86	33	54.7	3.62	Pellville †	87	43	63.6	6.24
West Bend*†	83	35	54.6	1.92	Princeton †	90	41	63.7	5.43
Williams* ¹	83	32	54.5	3.68	Richmond	86	42	64.4	7.03
Winterset †	87	32	57.8	3.16	Russellville*†	85	53	64.4	7.03
<i>Kansas.</i>					<i>Louisiana.</i>				
Abilene †	98	32	64.0	3.79	Abbeville †	92	52	74.9	4.95
Allison*†	95	30	60.4	1.59	Alexandria †	92	46	73.2	8.44
Altova*†	93	44	62.6	3.13	Amite †	96	50	76.9	6.74
Atchison †	90	37	61.4	4.84	Baton Rouge †	89	54	73.9	10.68
Beloit †	92	32	60.5	1.60	Calhoun †	92	49	71.4 ^a	6.89
Bucklin				1.80	Cameron †	93	47	73.4	4.49
Colby †	96	17	57.4	2.07	Cheneyville †	91	53	75.0	12.57
Coldwater †	98	25	63.0	1.11	Clinton †				7.00
Collyer †	97	32	60.2	1.10	Coushatta a †				5.43
Columbus †	86	36	63.4	5.85	Coushatta b †	94	42	72.4	6.49
Cunningham †	95 ^a	27	62.1	2.03	Covington †	90	52	72.8	7.05
Downs				3.77	Davis	93	44	70.7	6.90
Emporia †	85	37	63.0	3.35	Delhi †				6.36
Englewood †	96	28	62.2	2.90	Donaldsonville †	90	55	75.0	7.30
Eureka Ranch †	99	23	61.6	1.36	Emilie †	91	56	75.0	3.89
Fort Riley †	89	33	62.4	4.48	Farmerville	89	49	70.9	8.75
Gibson †	93	24	58.9	0.82	Franklin †	90 ^a	51 ^a	76.0 ^a	6.25
Gove City*†	96	24	58.8	1.53	Girard †	95	42	67.0	9.23
Grainfield †	96	34	58.4	1.00	Grand Coteau ¹	90	57	73.4	8.08
Greensburg †	93	25	60.0	0.92	Hamburg †	92	54	74.5	2.85
Grenola	88	37	64.1	3.05	Hammond †	94	50	74.4	7.84
Grinnell* ¹	100	40	66.8	0.87	Homert †				6.63
Havensville*†	92	34	59.2	5.55	Houma †	94	53	76.1	5.70
Hays City †	97	30	64.0	3.11	Jeanerette	93	51	75.4	4.68
Hesston	86	27	59.2	1.99	Lafayette †	95	52	76.2	5.13
Horton †	86	36	61.2	4.01	Lake Charles †	91	52	76.4	8.03
Hutchinson †	91	31	62.4	2.01	Lake Providence †	98	53	76.4	10.28
Independence †	90	40	63.6	5.16	Lawrence †	90	61	76.2	5.42
Kansas City †	87	34	61.0	6.48	Liberty Hill	96	46	72.8	5.41
Kellogg	93	31	64.2	5.64	Many †	91	54	74.9	4.00
Kiowa †	95	32	65.2	1.24	Maurepas	97	50	75.8	8.12
La Crosse †	99	34	65.3	1.46	Melville †	93	55	79.6	9.26
Lawrence †	86	42	61.9	7.62	Minden †	93	42	72.6	6.38
Lebo †	89	34	61.8	5.43	Monroe †	92	50	73.1	7.70
Liberal †	98	32	61.6	1.02	Natchitoches †	93	47	72.2	9.31
McAllaster* ²	103	31	66.9	2.00	New Iberia	88	55	74.2	5.57
Macksville †	99	23	61.3	1.35	Opelousas †	91	54	74.4	8.54
McPherson †	91	30	62.0	2.19	Oxford	93	49	73.5	5.29
Manhattan a †				5.91	Paincourtville †	92	53	75.0	6.76
Manhattan b †	91	31	60.8	5.73	Pain Dealing	92	48	69.2	6.30
Manhattane †	92	34	58.3 ^c	5.10	Plaquemine	90	59	75.2	7.88
Mankato †	97	23	58.4	2.20	Rayne †	93	52	74.8	5.63
Marion †	89	31	61.6	1.49	Roseland	93	51	74.6	6.06
Marmaton				4.26	Schriever †	96	51	77.0	3.16
Medicine Lodge				2.18	Shell Beach	92	55	75.6	7.11
Minneapolis †	95	29	61.0	2.14	Sugar Ex. Station ¹	93	57	76.2	2.90
Minomous* ¹	94	20	56.8	1.08	Sugartown ¹	91	50	72.6	0.66
Morland †	96	22	58.6	2.37	Thibodeaux				3.43
Morton †	98	31	62.8	0.63	Wallace	97	57	76.1	6.39
Mount Hope* ¹	89	48	64.8	4.36	West End	87	56	73.2	2.07
Ness City †				0.72	Winfield †	92	53	74.4	4.12
Norton †	98	24	60.5	2.71	Winnboro	94	40	69.4	5.66
Oberlin †				2.97	<i>Maine.</i>				
Owego †	92	35	63.9	5.06	Bar Harbor	80	37	52.2 ^a	4.25
Page City* ¹	90	32	58.5	1.75	Belfast* ⁶	79	39	54.1	5.29
Pauline	90	38	62.0	7.00	Calais †	79	31	53.6	2.61
Phillipsburg †	98	26	57.5	1.34	Cornish* ¹	89	37	53.6	8.82
Plainville* ²				2.43	Easton †	88	30	51.7	2.61
Pleasant Dale* ¹	97	30	60.1	1.41	Fairfield	84	30	53.8	6.42
Quinter* ¹	91	14	62.6	0.80	Farmington †	90	35	53.8	3.95
Rome*†	87	31	63.7	3.70	Fort Kent †	95	24	51.7	2.72
Sedan †	86	38	64.5	3.53	Gardiner †	84	33	54.2	4.66
Sharon Springs* ¹	98	34	61.2	1.25	Houlton †	90	36	51.6	1.30
Shields †	96	26	60.6	0.40	Kents Hill	83	31	52.6	6.76
Sterling †	96	29	64.6	1.99	Lewiston ¹	87	34	53.7	8.26
Syracuse †	101	31	60.6	0.71	Mattawamkeag* ²	80	35	50.5	1.15
Topeka	88	34	60.3	6.86	Mayfield	84	31	51.2	5.05
Tribune †	97	19	58.7	1.21	Petit Menan* ¹	62	35	49.6	
Ulysses †	96 ^a	31	62.8 ^a	3.45	Presque Isle	83	27	50.4	
Wa Keeney* ¹	95	30	63.2	1.00	West Jonesport* ¹	70	36	47.7	
Wakefield †	94	36	63.9	3.29	<i>Maryland.</i>				
Wallace a †				1.33	Barren Cr Sp'gs †	86	40	62.2	4.29
Wallace b †	99	34	65.4	1.72	Benedict †	91	43	63.2	4.14
Wamego* ¹	91	38	61.4	7.44	Boettcherville* ¹	92	40	61.5	4.90
Washington †	92	28	60.2	3.46	Cambridge	88	51	66.2	4.84
Yates Center †	87			4.46	Cumberland a †	88	42	61.4	4.37
<i>Kentucky.</i>					Cumberland b	90	44	64.3	4.50
Bowling Green*†	88	38	60.8	8.67	Darlington †	86	40	59.0	3.97
Burnside †				4.95	Denton †	88	37	63.0	2.49
Caddo*†	85	40	61.1	5.05	Easton †	87	43	63.6	4.16
Canton*†	88	50	64.8	6.92	Fallston* ¹	86	44	59.1	5.66
Carrollton*†	89	48	62.1	5.00	Fenby †	82	44	59.2	6.60
Cattlettsburg*†	86	50	65.4	2.59	Frederick †	80	40	62.4	4.78
Earlington	89	46	66.6	6.86	Glyndon ¹	88	41	59.4	5.08
Eddyville †				7.09	Great Falls* ²	87	45	62.0	3.44
Edmonton †	84	40	61.8	8.63	Jewell †			63.8	4.52
Falmouth †				3.50	Leonardtown †	84	35	62.8	4.71
Frankfort †				3.55	McDonogh	85	43	59.2	4.57
Franklin*†	86	52	65.1	10.41					
Greendale* ²	78	32	52.5	4.53					
Greensburg*†	85	47	62.3	5.44					
Harrodsburg †	88	37	61.9	5.95					
Hendricks †	88	38	63.1	3.15					
Louisia †	96	41	63.1	3.04					
Matlock* ¹	86	44	65.4	6.13					

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Maryland—Cont'd.</i>	°	°	°	Ins.	<i>Michigan—Cont'd.</i>	°	°	°	Ins.
Mt. St. Marys Col.†	87	40	60.9	4.24	Calumet	68	30	45.4	1.77
New Market *1	88	44	62.0	5.30	Clinton	86	33	55.0	2.13
Oakland †	79	31	55.1	4.78	Crystal Falls	92	25	47.7	1.24
Solomons †	87	47	63.4	4.01	Evart	86	27	51.2	2.09
Sunnyside *1	79	33	53.2	6.58	Fairview	82	35	52.8	1.53
Taneytown †	.....	.....	.....	3.66	Fitchburg	85	32	54.0	2.16
Upper Marlboro †	90	38	61.8	4.44	Flinn	83	31	53.8	4.11
Woodstock †	88	38	60.9	5.15	Gaylord	81	25	49.8	1.75
<i>Massachusetts.</i>					Glenwood	77	30	51.9	3.95
Adams a	89	34	57.0	.....	Grand Rapids †	85	39	54.8	4.15
Amherst Ex. St'n a †	85	31	56.6	4.37	Grape	82	35	56.4	1.34
Andover †	83	38	55.2	6.44	Grayling	82	27	50.7	1.45
Ashland	.....	.....	.....	6.28	Hanover	84	35	55.2	2.29
Bedford	89	34	55.5	.....	Harbor Springs †	80	27	47.6	3.18
Beverly Farms	85	36	52.4	5.64	Harrison	80	29	50.4	2.17
Blue Hill (sum.†)	84	36	54.3	4.49	Harrisville †	86	28	46.4	3.16
Blue Hill (valley) ..	86	34	55.7	4.30	Hart	75	30	51.0	2.50
Boston	.....	.....	.....	5.42	Hastings	83	33	54.2	3.62
Cambridge a	89	36	57.0	5.06	Hayes	83	31	52.5	3.36
Cambridge b	86	38	56.2	7.30	Highland Station	83	34	53.8	2.00
Chestnut Hill	90	36	57.7	5.77	Howell	84	32	54.3	2.36
Clinton	.....	.....	.....	5.90	Ivan	82	26	49.4	1.93
Concord a †	90	32	55.4	5.16	Jeddo †	82	32	52.2	1.77
Dudley †	89	37	55.6	6.61	Kalamazoo	84	34	55.4	4.42
Egg Rock, Nahant.	77	31	50.6	.....	Lake City *1	76	32	51.5	4.03
Fall River a *1	81	40	55.5	5.80	Lansing †	83	34	55.0	4.08
Fiskdale	.....	.....	.....	5.52	Lathrop *1	76	34	45.8	3.55
Fitchburg a *1	88	38	55.4	8.25	Lewiston	82	30	52.4	2.99
Fitchburg b	90	34	55.6	6.83	Madison	86	34	55.4	2.18
Framingham	89	31	56.8	6.94	Marshall †	87	32	55.2	2.75
Gilbertville	88	27	52.4	4.84	Mayville	79	33	53.5	4.50
Great Barrington †	86	34	55.6	5.93	Mio	79	34	53.2	.....
Groton a	89	32	55.3	7.01	Montague	77	27	50.2	0.83
Groton b	93	31	57.6	.....	Mottville	86	31	54.8	3.05
Hingham	.....	.....	.....	4.73	North Marshall	81	29	51.6	2.68
Hyannis †	79	38	56.3	4.05	Olivet	82	30	53.2	2.85
Kendall Green *1	88	36	57.6	5.89	Ovid	84	33	54.0	4.20
Lake Cochituate	91	27	57.1	5.37	Parkville	.....	.....	.....	4.62
Lawrence	87	34	56.8	5.55	Rawsonville *1	90	38	54.1	1.60
Leeds	89	30	55.6	8.29	Romeo	85	34	54.0	1.39
Leicester	86	34	54.4	5.33	Saint Ignace	78	29	46.8	3.66
Leominster *1	88	38	54.6	7.31	Sand Beach	83	32	49.5	4.25
Long Plain *1	80	40	53.5	5.78	Stockbridge	.....	.....	.....	1.76
Lowell a	89	34	56.0	6.05	Thornville †	85	37	56.0	1.33
Lowell b	91	33	55.2	.....	Vandalia	82	35	55.5	4.12
Lowell c	94	34	56.0	.....	Washington	84	31	54.0	1.45
Ludlow Center	83	28	53.3	5.26	Weldon Creek	80	27	51.3	1.60
Lynn b	89	40	57.4	.....	Williamston *1	80	38	57.1	3.05
Mansfield *1	84	42	55.8	5.88	Ypsilanti	86	33	55.0	1.97
Medford	.....	.....	.....	6.42	<i>Minnesota.</i>				
Middleboro	85	33	55.4	4.35	Ada †	81	30	.....	1.71
Milton *1	82	37	54.1	4.53	Albert Lea †	81	29	53.9	2.33
Monroe	87	30	56.9	7.09	Alexandria †	78	32	52.2	3.44
Monson †	90	30	55.6	5.51	Alexandria b †	78	32	52.2	.....
Mystic Lake	.....	.....	.....	6.26	Alma City †	79	31	54.1	1.88
Mystic Station	.....	.....	.....	6.10	Bingham Lake †	80	30	54.4	4.51
New Bedford a †	78	39	53.3	4.49	Bird Island	79	31	53.8	2.31
New Bedford b †	79	38	50.4	5.06	Blooming Prairie *1	82	30	54.1	3.15
Newburyport b	.....	.....	.....	4.70	Bonniwells Mills †	79	33	52.2	2.43
North Billerica †	92	37	57.7	7.01	Bostonville †	82	32	54.2	2.81
Plymouth *1	80	44	58.2	4.39	Cambridge †	83	26	52.2	3.17
Provincetown	78	41	54.4	3.08	Camden †	83	32	53.9	3.48
Randolph	.....	.....	.....	3.12	Clear Lake †	84	30	53.8	2.97
Roberts Dam	.....	.....	.....	4.71	Collegeville	84	32	54.7	1.91
Roxbury	86	39	55.9	6.05	Crookston †	86	36	51.9	.....
Royalston *1	86	38	55.2	4.00	Farmington †	83	31	54.3	2.14
Salem b	.....	.....	.....	5.76	Fergus Falls †	78	33	52.3	1.65
Somerset *1	85	39	59.4	4.83	Fort Ripley †	.....	.....	.....	2.42
South Dennis †	73	38	53.6	3.99	Grand Meadow *†	79	33	51.8	2.17
Springfield Arm'y.	86	37	56.2	5.48	Holland †	80	34	54.2	2.48
Taunton a †	89	36	56.6	4.43	Holland †	83	30	51.7	2.57
Taunton b	88	36	57.2	4.53	Kinbrae †	83	27	53.1	3.03
Taunton c	88	31	55.9	5.53	L Winnibigoshish †	76	34	49.6	2.07
Turners Falls	85	35	56.7	4.65	Leech Lake †	79	33	49.2	2.07
Wakefield †	90	35	56.2	6.77	Long Prairie †	84	27	52.7	2.95
Waltham	.....	.....	.....	5.06	Maple Plain	79	33	53.5	2.61
Wayland	90	27	56.7	5.17	Minneapolis a †	82	32	54.0	2.52
Webster	.....	.....	.....	5.82	Minneapolis b †	77	32	54.4	.....
Wellesley	86	31	56.2	5.67	Minnesota City *†	84	32	55.0	2.30
Westboro †	90	32	57.9	6.62	Montevideo †	83	34	55.2	2.21
Williamstown †	82	31	54.9	2.75	Morris †	80	34	53.8	2.32
Winchester	.....	.....	.....	5.18	New London †	80	33	54.7	3.06
Winthrop	86	38	55.3	4.62	Northfield †	79	32	53.4	2.43
Worcester a	87	37	56.3	7.40	Ortonville †	.....	.....	.....	2.24
Worcester b	86	38	55.6	6.95	Park Rapids †	82	26	50.8	1.64
<i>Michigan.</i>					Pine River *1	78	34	50.2	3.59
Adrian	86	34	55.3	3.61	Pokegama Falls †	75	19	48.1	3.17
Albion †	82	35	56.3	2.69	Redwood Falls †	.....	.....	.....	2.61
Allegan	84	32	54.2	3.07	Rochester †	81	34	53.7	2.33
Ann Arbor †	82	36	55.4	1.62	Rolling Green †	79	33	53.4	4.91
Arbela	.....	.....	.....	5.27	Saint Charles †	81	28	52.4	2.91
Ball Mountain	83	35	53.4	1.74	Saint Cloud *1	79	36	52.8	2.62
Bear Lake	78	45	48.6	2.01	Saint Oloff †	79	32	52.2	1.66
Bellaire	83	31	49.0	2.47	Saint Peter †	81	25	56.2	1.90
Benton Harbor	84	33	54.3	4.96	Sandy Lake Dam †	72	39	49.2	1.63
Benzonia	77	28	48.8	2.37	Wabasha *1	77	37	56.3	2.32
Berlin *1	83	30	52.6	1.44	Willmar †	81	33	52.4	3.49
Berrien Springs a *1	88	38	56.6	5.27	Winona †	82	35	56.4	2.88
Berrien Springs b	.....	.....	.....	4.88	<i>Mississippi.</i>				
Birch Run	85	32	54.8	4.20	Aberdeen †	98	48	68.9	7.64
Birmingham †	88	30	55.9	2.37	Agricultural College	91	53	71.1	7.11
Boon †	82	35	49.4	2.75	Batesville †	90	47	68.8	13.49
Bronson	86	32	54.8	2.65	Biloxi *†	84	60	73.5	2.79
Brown City	83	33	53.5	2.05	Briers	87	50	71.8	8.00
Caldwell	81	27	49.8	1.80	Brookhaven †	95	46	74.2	11.28

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Mississippi—Cont'd.</i>	°	°	°	Ins.	<i>Missouri—Cont'd.</i>	°	°	°	Ins.
Canton†	88	53	71.0	7.16	Osceola	.....	.....	.....	6.58
Clarksdale†	94	50	71.1	9.01	Oto	.....	.....	.....	4.29
Columbus a†	.....	.....	.....	6.55	Palmyra	.....	.....	.....	7.75
Columbus b†	100	42	72.3	7.12	Panacea	90	32	61.5	5.00
Corinth†	90	47	68.8	10.11	Paris	84	35	61.7	6.52
Crystal Springs†	93	48	73.1	9.35	Phillipsburg *†	87	43	65.0	5.07
Duck Hill†	89	44	69.1	7.52	Pickering	.....	.....	.....	4.05
Edwards	94	50	73.6	7.50	Platte River *1	88	35	58.9	5.15
Enterprise†	93	46	71.9	5.97	Poplar Bluff	.....	.....	.....	9.11
Fayette†	90	50	72.6	8.47	Princeton *1	87	41	58.6	4.12
Greenville	89	51	70.6	7.39	Rea *1	82	30	59.1	5.13
Greenville b†	91	48	71.4	7.32	Rolla†	.....	.....	.....	5.92
Hazlehurst†	93	48	72.7	13.61	Round Springs	.....	.....	.....	5.03
Hernando†	90	48	69.6	7.54	Saint Charles b	85	41	62.9	5.91
Holly Springs†	92	50	69.1	11.96	Saint Joseph†	.....	.....	.....	3.80
Jackson†	96	42	73.7	8.86	Saint Louis a	87	39	62.0	5.85
Kosciusko†	90	48	68.6	5.98	Sedalia	92	38	63.7	7.09
Lake†	90	51	71.8	7.63	Shelbina	.....	.....	.....	6.50
Logtown†	90	56	74.6	3.14	Stanberry *†	81	39	59.9	4.62
Louisville†	91	45	70.3	5.82	Steelville *1	88	34	61.6	7.67
Macon†	97	45	71.8	9.59	Steffenville	.....	.....	.....	8.08
Mesa Point†	92	56	76.4	3.95	Stellada†	91	36	62.8	8.52
Natches†	92	48	73.8	8.97	Sublett *1	84	39	61.0	6.50
Okolona†	96	46	70.8	7.57	Unionville†	87	32	59.3	4.89
Palo Alto†	90	48	71.1	7.71	Vermont *†	86	38	61.0	6.03
Pontotoc†	88	50	69.9	7.85	Virgil City	.....	.....	.....	4.07
Port Gibson†	93	43	72.4	9.18	Warrensburg *1	87	43	62.9	6.36
University†	89	46	68.4	11.38	Warrenton	90	39	61.8	6.39
Washington†	88	50	72.6	9.96	Wellsville *1	91	42	61.6	8.58
Water Valley *1	97	47	69.3	10.42	West Plains	.....	.....	.....	4.05
Waynesboro a†	96	46	72.0	8.46	Wheatland	.....	.....	.....	5.40
Waynesboro b†	96	48	73.4	9.83	<i>Montana.</i>	.....	.....	.....	.....
Woodville†	96	52	75.0	8.03	Boulder†	84	23	49.0	1.16
Yazoo City	.....	.....	.....	5.83	Bozeman†	83	27	48.6	3.16
<i>Missouri.</i>	.....	.....	.....	.....	Camp Poplar River†	89	32	56.7	4.60
Akron	.....	.....	.....	4.38	Cokedale *1	87	.....	50.2	2.28
Appleton City†	88	36	63.1	5.64	Corbin†	85	27	49.9	1.17
Arlington†	93	.....	.....	4.30	Deer Lodge City†	85	25	49.2	0.98
Arthur *1	86	41	61.3	4.65	Dry Forks†	91	27	50.1	2.20
Bethany	86	35	60.5	4.81	Fort Custer†	94	27	54.4	7.39
Big Piney	.....	.....	.....	4.82	Fort Keogh	100	26	53.7	2.35
Boonville†	.....	.....	.....	8.76	Fort Logan†	81	22	45.0	1.63
Brunswick	90	35	62.8	6.47	Fort Missoula	80	26	49.7	2.13
Cabool	.....	.....	.....	4.84	Glenlivet†	99	28	58.0	2.66
Canton	.....	.....	.....	5.77	Great Falls†	90	20	57.8	3.49
Cape Girardeau†	.....	.....	.....	3.50	Hogan†	.....	.....	.....	1.10
Carrollton†	86	39	62.1	6.02	Martinsdale†	87	19	51.4	1.76
Carthage†	.....	.....	.....	5.91	Mingsville†	86	36	60.8	2.61
Conception†	84	30	60.0	5.65	Powder River†	95	24	54.0	3.77
Cowgill *1	.....	.....	.....	4.79	Virginia City†	86	27	47.0	1.12
Dadeville†	90	.....	.....	11.52	<i>Nebraska.</i>	.....	.....	.....	.....
Darksville†	90	34	61.1	5.99	Agee *1	90	38	58.2	2.28
Dixon	88	42	65.1	7.09	Anselty†	100	19	56.4	2.39
East Lynne *1	.....	.....	.....	8.41	Arberville *1	90	28	55.4	2.67
Edge Hill *1	.....	.....	.....	7.21	Arcadia	.....	.....	.....	2.73
Edina	86	40	60.1	5.83	Ashtland†	83	36	59.2	4.71
Eight Mile *1	86	39	60.3	8.52	Ashton *1	89	32	56.1	5.22
Eldon *1	88	42	61.3	7.44	Bassett *1	88	29	55.2	2.22
Emma *1	92	38	64.8	6.77	Beatrice†	89	.....	60.6	1.96
Farmersville	.....	.....	.....	5.66	Beaver City	98	27	58.9	1.56
Fayette	93	34	63.6	7.27	Burwell *1	80	40	60.1	1.17
Fox Creek *1	86	42	63.6	7.93	Callaway†	89	21	55.5	2.53
Fulton	.....	.....	.....	6.26	Cornlea	.....	.....	.....	3.71
Gainesville	89	41	67.4	4.62	Creighton *†	86	27	54.4	3.25
Gallatin *1	94	40	62.1	5.26	Culbertson b	.....	.....	.....	1.44
Glasgow *1	90	37	61.6	5.50	David City *†	85	34	55.6	3.30
Glensted	.....	.....	.....	6.74	De Soto *†	87	32	59.4	4.69
Gordonville *†	.....	.....	.....	6.39	Ericson *1	94	36	58.2	2.99
Gorin *1	.....	.....	.....	4.46	Fairbury *1	89	30	62.4	2.95
Grove Dale	.....	.....	.....	6.39	Fort Robinson	89	18	52.8	0.72
Harrisonville†	94	34	62.7	7.09	Fort Sidney	91	18	53.3	1.76
Hastain	87	35	60.6	5.74	Franklin†	96	25	59.4	3.36
Hermann†	.....	.....	.....	5.81	Fremont *1	88	37	59.6	3.85
Houston	88	36	64.0	4.48	Geneva *†	90	28	.....	7.44
Humanville	88	33	62.6	7.39	Genoa†	85	34	58.0	5.11
Irena	.....	.....	.....	4.21	Gering *†	88	30	53.9	0.77
Ironton *1	86	46	62.4	7.25	Glenwood *1	86	29	54.2	3.99
Jefferson City†	92	35	62.9	6.58	Haigler *1	95	30	54.9	1.74
Lamar†	91	39	63.2	3.43	Harrison *1	90	24	49.0	0.97
Lamonte†	.....	.....	.....	7.18	Hartington†	90	28	54.6	1.95
Langdon†	87	33	58.8	4.40	Hastings†	.....	.....	.....	6.68
Lebanon	85	39	63.6	5.76	Hebron†	93	35	59.9	2.76
Lexington†	88	35	62.3	6.21	Holdrege *1	82	32	60.2	3.85
Liberty	93	37	64.2	5.95	Imperial *1	86	32	57.3	1.97
Louisiana Bridge†	.....	.....	.....	5.07	Indianola *1	100	18	59.0	2.23
McCune *1	90	32	61.0	4.04	Kennedy *†	86	33	53.9	1.81
Malden	.....	.....	.....	12.10	Kimball†	90	32	53.3	1.28
Mansfield	.....	.....	.....	6.12	Lexington†	95	28	60.7	3.46
Marble Hill	85	43	63.8	8.15	Lincoln†	88	35	59.3	2.31
Marceline	.....	.....	.....	5.49	Lynch *1	86	38	56.2	2.81
Marshall†	90	35	61.6	6.20	Madrid *†	90	25	56.2	1.09
Mexico†	90	36	62.4	8.51	Marquette *1	93	40	.....	3.35
Miami *1	88	40	61.7	5.34	Minden *1	82	32	57.2	5.61
Mine La Motte	86	44	63.7	6.51	Mullen *†	87	30	57.0	2.52
Mount Vernon	.....	.....	.....	3.80	Nebraska City *†	82	37	58.6	2.42
Neosho	86	34	63.3	4.92	Nesbit†	90	24	56.0	2.12
New Boston	88	38	61.4	8.45	Norfolk†	85	30	56.2	3.83
New Hartford *1	88	38	63.2	7.35	North Loup†	87	22	57.6	2.82
New Haven *1	90	44	63.6	5.99	Ogallala†	90	30	55.1	0.78
New Palestine	.....	.....	.....	4.59	O'Neill *1	87	36	56.3	2.34
Oakfield†	90	40	63.6	7.11	Ough b†	.....	.....	.....	2.00
Oak Ridge *1	82	42	59.4	6.50	Palmer *1	88	26	53.9	3.95
Olden†	87	40	64.2	5.43	Plattsmouth†	.....	.....	.....	5.71
Oregon a†	88	38	60.7	3.25	Ponca *1	92	30	57.4	3.04
Oregon b†	87	35	60.1	3.15	Ravenna	92	24	56.8	4.27

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
<i>Nebraska—Cont'd.</i>	o	o	o	<i>Ins.</i>	<i>New Jersey—Cont'd.</i>	o	o	o	<i>Ins.</i>
Red Cloud	89	34	58.2	2.79	Cape May	86	41	58.8	2.76
Santee Agency†	89	35	58.0	1.76	Charlotteburg	86	32	56.1	5.76
Seward	89	35	58.0	3.78	Deckertown	85	29	56.6	6.34
Springview	89	35	58.0	2.56	Dover	87	32	56.6	4.52
Stanton	89	35	58.0	4.85	Egg Harbor City†	92	35	58.2	3.15
State Farm†	95	30	58.7	2.95	Elizabeth†	91	42	61.3	5.07
Superior	101	30	58.6	2.35	Franklinville	90	35	59.6	3.27
Syracuse	87	40	61.3	2.08	Freehold†	91	33	59.5	5.16
Table Rock†	90	32	60.5	3.37	Friesburg	89	37	58.6	5.19
Tokamah	95	33	58.3	4.00	Gillette	92	41	59.8	3.85
Thedford	95	33	58.3	4.00	Hammon	92	38	59.8	3.60
Turlington	94	38	63.4	2.90	Hanover	92	38	59.8	3.60
Wallace	93	30	56.8	0.56	Highland Park†	90	39	58.1	3.53
Wayne	87	29	55.4	4.15	Hightstown	91	40	60.4	4.02
Weeping Water	87	29	55.4	2.55	Junction	88	37	60.6	2.82
West Point†	86	31	59.8	1.20	Lambertville	95	38	59.1	4.22
Whitman	86	28	51.0	1.99	Locktown	95	41	63.3	2.84
Wilcox	86	28	51.0	2.66	Moorestown	89	38	59.3	3.26
York	94	38	64.1	3.68	Newark	87	43	58.6	5.32
<i>Nevada.</i>	75	23	50.4	0.88	Newark	88	42	60.2	4.54
Battle Mountain	85	42	56.9	0.12	New Brunswick	95	38	61.2	3.95
Belleville	86	38	58.9	0.00	New Brunswick	90	39	58.4	4.04
Belmont	75	25	48.8	0.04	Newton	87	35	58.2	4.20
Beowawe	88	38	55.7	0.47	Ocean City	85	40	56.9	4.16
Brown	88	41	60.6	0.00	Oceanic	87	43	61.4	5.30
Candelaria	79	32	53.0	0.20	Paterson	92	39	61.5	5.16
Carlin	81	33	49.8	0.37	Pennsauken	91	37	59.4	4.49
Carson City	81	33	51.3	1.22	Plainfield	91	37	59.4	4.49
Crane Ranch	93	31	59.6	0.07	Rancocas	88	45	63.4	2.85
Downeyville	93	31	59.6	0.07	Readington	89	45	63.4	4.60
Elko	80	30	51.5	1.30	River Vale	89	34	58.7	4.60
Elko (near)	82	24	49.5	0.00	Salem	87	39	60.0	3.06
Ely	82	24	49.5	0.58	Somerville	90	36	60.3	3.96
Empire Ranch†	64	28	45.6	0.00	South Orange	88	41	58.2	5.37
Fenelon	95	32	52.8	0.10	Tenafly	87	35	59.9	5.30
Gilead	90	26	56.0	0.00	Toms River	92	35	58.4	4.87
Halleck	82	28	48.6	0.75	Trenton	91	43	61.6	3.54
Hawthorne	82	44	59.0	0.00	Whiting	91	39	60.6	2.79
Hawthorne	85	30	55.6	0.00	Whiting	92	35	59.4	3.90
Hot Springs	90	30	62.9	0.75	Woodbine	89	34	58.6	2.81
Humboldt	87	38	57.4	0.00	<i>New Mexico.</i>				
Lewers Ranch	80	26	51.5	1.22	Albany	91	31	64.7	1.23
Locke	80	45	62.9	0.00	Albuquerque†	89	36	63.2	0.45
McDermitt	89	21	52.0	0.70	Chama†	84	19	50.2	1.27
Mill City	86	35	53.6	0.00	Coolidge†	85			
Monitors Ranch	83	23	50.2	0.58	Deming	92	61	76.7	1.45
Palisade	84	32	59.9	0.00	East Las Vegas†	81	26	57.5	1.45
Palmetto	80	20	51.0	0.08	Embudo	92	30	61.4	0.87
Pioche	84	26	56.6	0.02	Folsom	84	30	55.4	2.41
Reno	78	37	57.6	0.00	Fort Bayard	86	29	59.8	1.30
Reno State Univ'ty.	80	24	50.2	0.13	Gallinas Spring†	92	31	64.0	1.20
Saint Clair	84	31	55.2	0.40	Halls Peak†	76	22	51.2	3.02
South Camp†	73	22	47.8	0.40	Hillsboro†	91	30	64.2	1.83
Stoffel	78	18	42.8	1.27	La Luz†	88	43	64.1	0.87
Sunnyside	90	25	55.0	0.00	Las Cruces†	93	33	62.6	0.87
Tecoma	80	35	51.0	0.00	Lordsburg	93	50	72.4	1.96
Tono	75	30	50.3	0.40	Los Lunas†	92	32	62.0	1.40
Tuscarora†	98	18	48.3	0.59	Monero†	84	17	50.6	1.05
Tybo	83	28	53.2	1.26	Olivo†	86	27	59.1	0.76
Verdi	83	27	44.7	0.82	Socorro†	96	33	65.8	0.88
Virginia City	78	20	52.0	0.20	Springer†	93	33	59.8	2.38
Wabaska	90	34	53.7	1.26	Thos†	88	25	55.5	1.62
Wadsworth	90	34	53.8	1.26	<i>New York.</i>				
Wells	75	32	51.6	0.42	Addison	87	32	55.9	7.87
Winnemucca	84	37	57.8	0.42	Akron	85	32	52.9	7.20
<i>New Hampshire.</i>					Alfred Center	85	32	52.9	5.89
Belmont	88	27	52.2	4.21	Amersand†	85	30	52.5	3.46
Berlin Mills	86	32	51.8	3.54	Angelica†	86	29	52.9	5.65
Bethlehem	96	40	56.6	6.98	Arcade	82	29	52.1	7.26
Brookline	98	32	53.4	4.15	Arkwright	78	30	51.7	7.33
Concord	90	32	51.9	6.48	Atlanta				4.00
Durham	89	33	54.5	5.62	Avon	89	37	56.5	5.12
East Canterbury	88	32	55.7	3.57	Baldwinsville	89	37	56.5	5.12
Groveton	88	34	52.0	3.09	Bedford	89	37	56.5	5.12
Hanover	85	30	54.3	3.63	Binghamton	89	30	55.1	5.16
Keene	90	29	54.5	4.43	Brentwood	86	35	56.4	5.85
Lakeport	88	28	52.8	4.43	Brockport	87	35	57.2	4.99
Lancaster	88	28	52.8	2.12	Brookfield	86	30	54.4	5.67
Littleton	89	27	52.2	2.30	Canton†	90	36	54.6	7.21
Manchester	90	35	57.1	5.05	Castile				6.68
Mine Falls	93	30	56.2	6.49	Cherry Creek	83	31	51.0	5.20
Nashua	88	30	56.2	6.27	Constableville†	86	31	51.0	4.87
Newton	88	31	54.8	6.30	Cooperstown†	86	33	52.8	6.74
North Conway	90	27	53.0	5.96	Cortland	83	32	53.9	6.29
Pennichuck Station				6.60	De Kalb Junction				6.38
Plymouth	91	26	52.0	2.94	Demster				5.89
Sanbornton†	89	30	53.2	4.41	Dunkirk	78	36	51.6	4.33
Stratford	90	30	54.5	2.67	Easton				3.89
Tilton	87	32	53.4	4.13	Eden Center	87	34	55.0	8.13
Wiers Bridge	90	26	50.6	3.30	Ellis				6.30
West Milan	90	26	50.6	3.30	Elmira	85	43	59.4	6.84
Wolfboro				4.17	Factoryville†	87	30	56.8	7.34
<i>New Jersey.</i>					Fleming	86	35	56.4	5.61
Allaire	90	32	57.4	3.72	Fort Niagara	82	40	53.8	5.18
Asbury Park	88	39	58.4	4.30	Friendship†	84	28	52.4	5.70
Barneget	91	39	57.4	4.30	Geneva†	92	37	55.2	5.11
Bayonne	91	40	59.3	4.77	Groversville	90	32	54.2	6.06
Beverly†	93	37	59.1	3.36	Honeybrook Brook†	87	34	56.6	7.22
Billingsport L. H.	92	46	61.0	3.05	Humphrey†	81	34	54.0	5.42
Boonton				5.91	Ithaca†	87	34	54.9	6.04
Bridgeport	93	44	63.4	3.53	Jamestown	83	35	55.7	6.06
Butler				6.38	Kings Station				6.06
Camden	89	42	60.5	3.74	Lebanon Springs	88	39	54.2	5.32

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.			Max.	Min.	Mean.	
<i>New York—Cont'd.</i>	o	o	o	<i>Ins.</i>	<i>N. Dakota—Cont'd.</i>	o	o	o	<i>Ins.</i>
Le Roy	88	38	55.2	6.13	Milton†	85	28	54.1	1.39
Liberty	86	35	54.7	5.43	Minto†	85	30	50.8	1.90
Lockport	84	32	52.6	6.78	Napoleon†	86	26	50.5	1.78
Lowville	87	39	56.7	4.88	Oakdale†	88	28	52.4	4.34
Lyons	87	39	56.7	4.88	Power†	94	30	53.0	0.02
Madison Barracks	93	37	54.8	5.59	Saint John†	86	25	50.8	2.01
Malone	85	32	52.6	4.05	Sykeston†	97	27	52.8	1.40
Middletown	85	35	58.0	8.03	Valley City†	88	21	51.2	1.01
Minnewaska	84	35	53.5	5.62	Wahpeton†	83	30	54.7	1.12
Mount Morris	86	31	54.8	5.62	Wild Rice†				5.23
Newark Valley	86	31	54.8	6.66	Willow City†	91	20	51.1	1.37
Newfield Summit	85	35	54.2	4.90	Woodbridge†	88	25	49.3	1.21
New Lisbon	86	32	54.7	6.03	Yule†	87	24	53.9	3.71
N'th Hammond†	88	32	54.7	6.03	<i>Ohio.</i>				
Number Four†	82	30	51.4	6.30	Akron†	82	36	56.5	6.23
Ogdensburg	92	36	52.9	5.82	Annapolis	84	29	56.9	3.44
Oxford	87	31	54.7	6.23	Ashland	81	41	57.2	7.33
Palermo†	89	33	53.4	4.72	Athens	88	35	59.5	4.12
Perry City†	86	31	54.1	5.37	Auburn	81	32	53.8	7.06
Phoenix	89	35	56.2	5.28	Bangorville†	82	35	56.0	4.85
Plattsburg B'ks	82	35	53.6	3.26	Bellevue	84	36	55.8	3.68
Port Henry	86	34	57.7	3.50	Bement	85	32	52.8	10.07
Port Jervis	88	33	52.8	5.38	Benton Ridge	85	34	56.8	3.44
Potsdam	87	33	52.8	7.06	Bethany	84	38	59.8	6.64
Poughkeepsie	87	33	52.8	7.06	Big Prairie	84	33	57.2	7.03
Rome	93	35	59.6	6.47	Bissella	82	34	53.5	9.01
Romulus	87	36	56.0	6.11	Bladensburg				3.02
Rondout†	84	36	56.6	7.78	Bloomington	83	39	58.6	4.82
Setauket†	82	38	56.4	5.87	Bloomington				6.61
South Canisteo†	89	29	54.0	5.23	Bucyrus†	82	36	56.8	3.95
South Kortright†	86	26	53.8	5.81	Caledonia†				5.80
Turin	82	33	51.4	6.39	Cambridge	85	34	57.3	5.53
Utica	90	25	54.8	7.84	Campbelltown	80	37	57.0	5.91
Varysburg	85	32	53.8	5.52	Camp Dennison	88	38	60.5	6.03
Victor	88	36	55.4	0.19	Canton†	84	36	57.1	5.26</

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
Ohio—Cont'd.	°	°	°	Ins.	Pennsylvania.	°	°	°	Ins.
Ridgely Corners	86	35	57.0	3.46	Altoona	89	40	62.5	4.67
Ripley	87	40	60.9	3.66	Aqueduct	90	36	61.3	6.40
Sharon Center	87	40	60.9	8.01	Blooming Grove	88	39	57.1	6.72
Shenandoah	82	33	56.0	5.88	Bloomsburg	84	35	57.9	7.07
Sidney	87	40	60.9	7.93	Blue Knob	82	35	57.0	9.20
Springboro	87	40	60.9	5.79	Brookville	87	39	58.1	5.02
Strongsville	87	40	60.9	11.17	Browsers Lock	88	31	58.1	4.08
Sylvania	88	32	56.6	1.95	Carlisle	88	31	58.1	5.49
Thurman	89	37	62.2	1.64	Chambersburg	87	35	59.8	6.24
Tiffin	83	38	57.5	2.90	Clarion	87	35	59.8	5.09
Tyrone	88	38	58.1	3.66	Coatesville	87	35	59.8	3.86
Upper Sandusky	83	38	58.0	4.36	Confluence	84	39	58.7	6.64
Vanceburg	86	34	55.7	2.63	Coopersburg	85	39	58.0	5.42
Van Wert	86	34	55.7	3.64	Corry	85	39	58.0	6.86
Vermillion	87	37	58.1	3.78	Davis Island Dam	87	39	58.0	4.70
Vickery	87	37	58.1	3.47	Doylestown	87	39	58.0	4.28
Walnut	87	37	58.1	5.78	Drifton	83	32	53.9	8.94
Warren	85	31	55.5	6.00	Du Bois	86	31	54.4	4.66
Wauseon	87	33	56.4	2.32	Dyberry	86	31	54.4	6.21
Waverly	91	38	61.2	3.07	East Mauch Chunk	89	37	58.5	6.68
Waynesville	87	37	58.0	6.57	Easton	86	37	59.6	4.82
Wellington	87	37	58.0	7.65	Edinboro	86	37	59.6	4.82
Westerville	83	38	58.0	4.09	Emporium	89	31	56.8	4.99
West Milton	85	42	58.0	5.95	F'ks of Neshaminy	87	39	58.1	4.22
Weymouth	87	32	55.5	5.69	Frederick	87	39	58.1	4.51
Wheeler	87	32	55.5	12.47	Freeport	87	39	58.1	4.72
Wooster	84	36	57.6	6.28	Gettysburg	85	37	57.8	7.36
Wooster	84	36	57.6	6.28	Girardville	85	37	57.8	6.51
Youngstown	84	30	57.6	6.35	Grampian	86	34	56.2	5.47
Zanesville	84	30	57.6	6.31	Greensboro	88	38	59.9	4.96
Oklahoma Ter.	°	°	°	°	Hamburg	88	38	59.9	6.82
Anadarko	94	35	68.2	1.20	Hollidaysburg	89	39	58.4	5.23
Burnett	89	41	68.6	2.18	Honesdale	85	33	55.7	5.70
Port Reno	90	40	66.7	1.88	Huntingdon	90	31	58.7	7.79
Port Sill	100	44	68.0	3.50	Johnstown	90	31	58.7	6.50
Gate City	98	29	64.4	1.04	Kennett Square	90	31	58.7	6.50
Guthrie	94	40	68.0	4.11	Kilmer	93	48	62.3	3.61
Keokuk Falls	86	40	62.1	1.32	Lancaster	86	37	58.4	6.26
Mangum	104	35	68.0	1.55	Lansdale	86	37	58.4	3.59
Ponca	94	35	63.9	1.87	Lebanon	86	33	57.4	8.05
Sac & Fox Agency	88	39	61.8	3.83	Le Roy	84	36	55.6	7.76
Stillwater	90	40	65.5	3.40	Lewisburg	86	31	57.6	6.42
Winnview	92	32	68.4	2.24	Ligonier	87	39	55.9	6.13
Oregon.	°	°	°	°	Lock Haven	92	33	58.4	4.89
Albany	80	39	53.9	3.13	Lock No. 4	90	31	58.1	5.19
Albany	84	42	61.5	3.85	Lycippus	78	45	58.1	5.60
Arlington	83	42	58.8	1.21	McConnellsburg	88	35	59.3	6.20
Ashland	73	42	54.7	1.24	Mahoning	88	35	59.3	4.33
Ashland	79	32	53.4	2.07	Meadville	85	34	55.2	7.48
Aurora	80	45	58.0	3.16	Newcastle	86	28	59.7	6.23
Bandon	65	43	50.7	4.28	Oil City	86	39	59.7	6.15
Bay City	78	46	57.2	3.31	Ottawa	86	39	59.7	4.85
Brownsville	82	44	57.2	3.31	Parker	86	39	59.7	5.28
Burns	82	46	57.2	3.31	Philadelphia	89	44	61.4	2.54
Canyon City	90	32	54.6	2.83	Philadelphia	88	43	60.8	3.12
Cascade Locks	76	40	54.9	4.70	Philadelphia	87	39	60.4	3.37
Comstock	84	40	55.6	3.81	Phoenixville	87	39	60.4	4.64
Cornelius	77	35	53.0	2.22	Point Pleasant	89	40	61.7	5.04
Corvallis	77	35	53.0	3.66	Pottstown	86	40	61.7	4.80
Corvallis	78	48	55.9	3.00	Quakertown	86	36	57.3	5.41
Corvallis (near)	37	37	55.1	3.70	Reading	86	36	57.3	4.44
Crook	78	26	45.8	4.20	Ridgway	86	36	57.3	4.14
East Portland	82	34	54.0	3.16	Saegertown	82	30	53.5	8.80
Eugene	76	38	54.0	3.07	Salem Corners	88	34	54.4	5.21
Gardiner	72	38	53.0	4.13	Saltsburg	88	34	54.4	4.94
Glenora	79	32	51.0	5.68	Seisholtzville	88	34	54.4	6.21
Grants Pass	84	33	55.2	1.35	Selins Grove	90	33	59.4	6.85
Grants Pass	92	34	56.7	1.89	Skippack	84	34	59.6	6.85
Happy Valley	85	31	48.5	1.39	Smithport	82	27	53.1	4.90
Heppner	79	34	52.8	2.68	Smiths Corners	83	31	54.7	4.64
Hood River (near)	73	38	51.5	2.58	Somerset	82	33	56.6	7.30
Hubbard	76	39	54.6	2.83	South Eaton	82	33	56.6	5.12
Jacksonville	78	33	54.2	2.58	State College	85	31	57.4	6.46
Junction City	70	43	54.9	1.08	Stoyestown	85	31	57.4	6.14
Lafayette	85	40	56.9	1.34	Swarthmore	88	43	61.2	3.48
La Grande	83	31	49.0	2.89	Uniontown	83	37	59.2	5.68
Langlois	73	37	54.8	4.70	Warren	84	26	50.9	6.28
Leland	84	40	54.8	1.57	Wellaboro	84	26	50.9	6.58
Lone Rock	80	34	54.0	3.15	West Chester	86	42	59.4	4.18
McMinnville	80	34	54.0	2.36	West Newton	86	42	59.4	5.54
McMinnville	83	38	56.2	1.47	Westtown	87	30	58.0	3.15
Monmouth	80	46	59.0	1.37	Wilkesbarre	91	33	61.6	4.15
Mount Angel	78	37	53.9	2.99	Wysox	89	32	58.8	3.05
Newberg	77	36	54.2	2.50	York	88	35	59.7	6.53
New Bridge	90	33	56.1	1.20	Rhode Island.	°	°	°	°
Newport	70	28	47.0	2.93	Bristol	74	40	52.3	3.65
Oregon City	76	46	55.1	3.35	Kingston	82	36	53.5	6.12
Portland	76	46	55.1	3.35	Lonsdale	82	36	53.5	6.12
Riddles	86	40	54.7	1.48	Newport	78	43	56.3	6.13
Roseburg	85	45	58.1	2.17	Olneyville	85	35	55.8	6.13
Salem	79	42	54.0	2.88	Pawtucket	84	38	57.0	5.90
Salem	79	42	54.0	2.88	Providence	88	40	58.6	6.24
Sheridan	78	46	56.7	1.86	Providence	88	34	57.1	5.68
Silverton	74	46	55.3	2.96	Providence	86	38	55.8	6.45
Siskiyou	75	35	50.4	4.70	South Carolina.	°	°	°	°
Sparta	74	28	47.8	1.88	Allendale	95	49	72.0	6.84
Springfield	76	45	56.2	3.32	Anderson	94	46	70.6	6.15
The Dalles	82	42	58.2	0.69	Batesburg	95	48	73.0	3.50
Toledo	74	35	52.6	3.69	Blackville	91	47	68.7	4.05
Umatilla	85	30	55.0	0.89	Brewer Mine	95	47	68.7	4.05
Vale	85	30	55.0	0.89	Camden	97	44	69.0	5.50
Vernonia	76	39	52.6	3.03	Cheraw	97	44	69.0	5.50
West Fork	90	40	56.7	2.17	Cheraw	97	44	69.0	5.50
Weston	82	34	54.0	3.56	Effingham	97	44	69.0	5.50
Williams	79	33	54.0	1.77	Evergreen	93	43	67.6	4.56

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
S. Carolina—Cont'd.					Tennessee—Cont'd.				
Florence†	95	50	72.3	4.08	Loudon†	81	44	60.9	6.05
Greenville†	87	38	63.8	3.87	Lynnville†	92	40	66.7	14.66
Greenwood†	94	46	70.2	3.02	Milan†	92	40	66.7	10.27
Hardeeville†	92	46	71.0	3.90	Missionary Ridge	88	52	64.8	...
Kingstree†	94	45	70.7	2.81	Newport†	88	43	63.8	6.91
Kitchings Mills†	97	41	69.4	3.53	Nunnally†	87	45	65.0	9.17
Longshore†	95	45	69.3	4.59	Palmetto†	93	48	71.0	7.10
Marion†	94	47	69.3	3.92	Parksville†	88	43	64.0	8.03
Martins	...	...	...	4.48	Pikeville	...	...	...	6.13
Mount Carmel†	...	...	...	2.98	Riddletown†	89	42	64.8	5.21
Nichols†	...	...	...	4.46	Rockwood†	...	...	...	7.10
Pineopolis	...	...	...	3.44	Rogersville†	85	44	61.2	7.10
Port Royal†	90	55	72.7	3.50	Rugby†	85	43	63.0	6.86
Saint Georges†	94	47	71.2	2.95	Savannah†	89	51	68.0	7.28
Saint Matthews†	96	49	72.6	3.25	Springdale†	88	36	65.0	6.66
Saint Stephens†	...	...	...	4.13	Strawberry Plains†	...	...	...	6.06
Sedalia†	90	52	69.3	...	Tazewell†	...	...	...	6.54
Selma†	...	52	72.4	...	Tullahoma†	84	45	66.0	4.00
Simpsonville†	94	46	68.9	4.82	Waynesboro†	87	43	64.4	7.90
Society Hill†	92	50	68.6	5.80	Wier†	90	44	64.7	8.59
Spartanburg†	93	46	67.6	4.00	Texas.				
Statesburg†	93	49	69.7	3.91	Albany†	97	43	70.8	5.71
Tillers Ferry†	...	...	...	5.37	Arlington†	96	45	72.3	7.01
Trenton†	90	50	72.2	4.40	Arthur City†	...	...	...	2.11
Trials	92	45	70.3	3.30	Aurora†	97	42	70.5	3.73
Vance†	...	...	70.2	...	Austin†	94	53	75.0	6.00
Waterloo†	...	...	...	3.53	Belton†	95	36	67.4	2.68
Watts†	96	45	70.0	2.29	Boerne†	95	36	67.4	2.68
Winnboro†	95	46	69.8	4.90	Brady†	101	43	73.1	1.85
Yorkville	90	45	67.8	3.96	Brasoria†	93	56	74.2	2.90
Youngs Island†	96	49	72.4	4.23	Brenham†	95	50	75.8	3.30
South Dakota.					Brownwood†	104	41	74.4	2.31
Aberdeen†	81	31	53.9	1.89	Burnet†	91	50	72.8	3.30
Alexandria†	88	27	54.1	5.76	Camp Eagle Pass	105	58	80.1	1.42
Ashcroft†	97	16	50.2	3.51	Coldwater†	97	31	63.2	0.94
Bear Valley†	89	33	50.9	2.09	College Station	99	50	74.8	9.10
Bowdle†	85	29	55.6	2.12	Columbia†	92	55	75.8	1.20
Britton†	87	28	52.6	0.66	Corsicana†	97	40	73.0	6.06
Brookings†	82	17	53.2	2.85	Corsicana†	95	45	71.2	6.94
Castlewood†	84	22	52.8	2.53	Cuero†	98	52	76.6	...
Clark†	91	30	59.2	3.25	Dallas†	93	45	72.0	4.05
Cross†	84	19	46.7	1.90	Dallas†	92	50	71.5	7.85
De Smet†	78	26	54.9	1.90	Devine	97	48	75.1	3.46
Faulton†	86	24	53.4	2.28	Durham†	...	...	...	2.50
Flandreau†	89	28	54.0	4.24	Duval†	97	53	76.3	4.35
Forestburg†	86	29	55.0	2.51	Eagle Pass†	...	...	...	1.49
Fort Meade	91	27	52.8	2.01	Eastland†	90	46	67.2	3.53
Fort Sully	89	32	55.6	4.00	Fay	...	...	...	1.28
Frankfort†	87	20	53.0	2.95	Flower Bluff†	85	60	77.7	4.12
Gale†	86	27	53.9	1.78	Forestburg†	96	42	68.2	0.63
Gary†	85	32	54.8	2.70	Fort Brown†	96	59	80.8	2.33
Highmore†	85	26	50.0	1.90	Fort Clark	102	56	78.6	6.08
Hitchcock	...	...	...	3.26	Fort Hancock	96	27	67.4	5.09
Hotch City†	89	28	54.3	1.72	Fort McIntosh	105	49	80.8	3.15
Howard†	84	26	53.5	3.84	Fort Ringgold	103	58	80.9	4.20
Kimball†	86	33	54.6	3.50	Fredericksburg†	88	54	74.7	3.47
Mellette†	84	38	55.6	2.66	Gainesville†	92	44	68.5	5.30
Midland†	91	28	56.2	2.16	Graham†	105	40	73.2	6.05
Oelrichs†	98	22	56.5	T.	Grape Vine†	95	43	72.4	7.04
Onida†	89	24	54.1	3.31	Hallettsville†	98	48	73.5	1.57
Parker†	84	27	54.5	3.48	Hartley†	95	36	64.0	1.37
Parkston†	88	25	53.4	2.84	Haskell†	107	44	74.6	2.46
Piedmont	...	...	...	0.06	Hearne†	96	48	73.9	2.80
Plankinton†	83	31	53.7	4.38	Hidalgo†	...	...	...	4.33
Rosebud†	89	26	53.9	2.40	Highland	105	43	73.2	2.21
Salem†	84	26	52.9	5.94	Houston†	94	54	75.5	3.00
Sioux Falls†	83	25	55.4	5.00	Huntsville†	94	52	75.4	4.74
Spearsburg†	93	28	53.5	2.91	Kent	...	...	...	0.86
Tyndall†	86	30	55.9	2.83	Laredo†	...	...	...	1.69
Vermillion†	86	30	56.0	2.80	Llano†	102	50	75.2	2.24
Watertown†	83	28	55.2	2.47	Longview†	95	46	74.2	6.67
Webster†	91	25	55.5	2.00	Luling†	96	50	75.2	0.36
Wentworth†	84	28	50.9	2.96	McGregor†	88	44	63.5	4.26
Wessington Spgs†	85	32	55.5	2.04	Marshall†	95	52	76.1	5.40
Whitewood	...	...	...	3.49	Menardville†	101	48	72.4	3.08
Wolsey†	85	30	53.6	2.17	Mesquite†	96	43	70.7	7.93
Tennessee.					Mountain Spring†	94	44	70.4	4.56
Andersonville†	87	37	64.1	6.75	Nacogdoches†	93	48	72.8	7.51
Arlington†	90	45	67.5	10.16	New Braunfels†	92	50	73.9	2.87
Ashwood†	87	45	66.4	8.28	Orange†	90	54	75.0	6.25
Bethel Springs†	86	48	70.5	...	Paris†	92	46	70.8	4.89
Bolivar†	88	44	66.2	8.66	Rio Grande City†	...	...	...	4.21
Bolivar†	...	52	62.3	9.22	Roby†	104	40	70.0	1.86
Brownsville†	92	45	69.0	6.83	Rockport†	90	58	75.4	...
Carthage†	...	...	...	6.17	Round Rock†	96	50	76.6	4.74
Charleston†	...	...	...	9.26	San Antonio†	94	51	74.6	3.34
Clarksville†	89	45	66.1	7.26	San Marcos†	...	...	...	1.90
Clinton†	...	...	...	6.67	Sierra Blanca†	93	36	68.1	2.00
Columbia†	...	...	...	7.02	Silver Falls†	100	35	69.2	1.60
Covington†	87	50	66.6	10.83	Stella†	90	56	75.4	4.15
Covington†	96	48	69.8	8.83	Sugar Land†	96	53	77.4	4.43
Dyersburg†	91	46	67.6	7.63	Sulphur Springs†	95	47	71.0	4.48
Fayetteville†	91	48	67.4	3.54	Temple†	92	48	71.3	2.54
Florence Station†	89	53	66.0	10.93	Tyler†	92	46	71.4	4.07
Franklin†	90	43	65.8	7.63	Victoria†	92	57	76.8	5.97
Greenville†	82	44	61.3	6.60	Wichita Falls†	108	40	73.6	2.80
Harriman†	93	38	65.8	7.45	Utah.				
Harrington†	81	40	62.4	3.73	Beaver†	92	23	55.0	0.50
Hohenwald†	94	40	67.2	9.55	Blue Creek†	85	36	57.8	0.70
Jacksboro†	84	37	61.0	6.27	Castle Gate†	90	31	55.0	0.44
Jackson†	90	51	67.6	8.10	Cisco†	95	33	62.4	0.76
Johnson City†	88	43	64.0	5.81	Corinne†	79	35	57.0	1.20
Johnsonville†	...	...	...	6.48	Deseret†	85	29	54.2	0.67
Kingston†	...	...	...	7.07	Fillmore†	94	27	57.4	1.53
Lookout Mount'n†	84	41	61.8	7.51	Fort Du Chene†	...	...	...	0.90

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Utah—Cont'd.</i>				<i>Ins.</i>	<i>Washington—Cont'd.</i>				<i>Ins.</i>
Green River†.....	94	36	63.1	0.45	Tacoma†.....	78	36	52.2	3.68
Grouse Creek *†.....	81	31	48.0	0.39	Union City†.....	75	38	53.4	3.66
Heber†.....	84	24	51.8	0.76	Vashon†.....	.....	.....	55.0	3.47
Kelton *.....	80	29	53.8	0.38	Waterville†.....	76	30	51.3	2.45
Lake Park.....	86	31	54.7	1.03	<i>West Virginia.</i>				
Levan†.....	.....	.....	53.7	1.12	Bluefield†.....	86	34	58.6	7.85
Logan†.....	83	23	50.6	T.	Buckhannon†.....	.....	.....	59.2	4.34
Logan†.....	83	23	53.8	1.73	Buckhannon b†.....	90	33	59.2	.....
Loose†.....	85	25	54.0	0.49	Central Station *†.....	92	46	66.2	3.37
Moab†.....	86	35	64.3	0.76	Charleston a†.....	.....	.....	58.5	3.58
Mount Carmel *†.....	82	26	54.5	0.20	Davis†.....	84	30	52.0	6.71
Ogden a *.....	92	40	60.5	0.95	Elkhorn†.....	88	38	60.4	7.10
Ogden b†.....	.....	.....	60.9	1.09	Ellis†.....	85	37	58.1	5.21
Parowan†.....	85	23	54.0	1.34	Fairmont†.....	.....	.....	59.5	3.64
Promontory *.....	88	38	53.6	0.75	Glenville†.....	85	37	59.5	3.84
Provo City†.....	.....	.....	57.0	1.60	Grafton†.....	90	35	60.0	4.07
Randolph†.....	82	21	43.4	0.46	Harpers Ferry†.....	.....	.....	58.4	4.57
Saint George†.....	96	42	67.1	0.11	Hinton†.....	.....	.....	55.2	5.56
Seefield†.....	80	12	43.1	0.00	Kingwood *†.....	83	33	55.2	2.00
Singletree *†.....	80	26	50.4	0.26	Marlinton†.....	84	31	56.6	4.47
Snowville†.....	87	26	51.6	1.28	Martinsburg†.....	90	39	60.2	5.22
Soldiers Summit†.....	90	19	47.0	0.53	Morgantown a†.....	.....	.....	58.5	3.58
Terrace *.....	84	39	56.2	0.00	New Cumberland.....	86	35	58.6	3.52
Thistle†.....	88	.....	.....	0.05	New Martinsville *†.....	82	42	58.9	6.15
<i>Vermont.</i>					Parkersburg†.....	87	39	60.3	5.87
Brattleboro a.....	89	33	57.2	4.96	Philippi†.....	.....	.....	58.4	3.41
Burlington†.....	85	38	57.8	3.17	Pleasant Hill *.....	82	32	58.4	6.46
Chelsea *.....	80	35	49.2	3.97	Point Pleasant†.....	90	42	61.4	2.63
Cornwall.....	.....	.....	51.9	1.99	Rowlesburg†.....	.....	.....	62.6	4.48
Enosburg Falls†.....	88	39	54.8	2.91	Spencer†.....	88	38	62.6	2.68
Hartland†.....	88	25	52.3	4.35	Tannery *.....	85	35	58.2	.....
Hyde Park†.....	92	28	55.5	3.18	Weston a†.....	.....	.....	62.2	3.00
Iraaburg†.....	.....	.....	52.6	2.56	Weston b *.....	85	42	62.2	3.02
Jacksonville.....	88	26	53.3	7.58	Wheeling a†.....	.....	.....	62.0	4.69
Norwich *.....	83	31	51.6	3.45	Wheeling b†.....	85	41	62.0	4.30
Saxtons River†.....	88	30	52.5	4.97	<i>Wisconsin.</i>				
Simonsville.....	83	26	49.4	.....	Amherst.....	78	39	50.6	3.14
South Royalton *.....	89	32	51.2	3.20	Appleton†.....	78	39	52.6	2.05
Stratford *†.....	82	34	52.6	2.58	Ashland†.....	81	22	47.2	2.76
Vernon *.....	88	36	55.4	3.19	Baraboo†.....	79	32	53.6	4.06
Wells.....	88	32	53.7	4.12	Barron†.....	80	18	48.1	3.85
Woodstock.....	93	28	54.0	5.62	Bayfield.....	75	24	46.5	2.22
<i>Virginia.</i>					Beaver Dam.....	74	28	50.5	2.29
Abingdon†.....	.....	.....	53.6	5.66	Belleville.....	80	29	53.0	1.78
Alexandria†.....	90	44	63.8	5.48	Beloit†.....	81	33	54.8	2.11
Ashland†.....	92	41	65.2	8.34	Black River Falls†.....	82	26	51.6	2.36
Avon†.....	93	39	63.9	7.71	Butternut†.....	80	17	45.6	3.88
Bedford City†.....	86	46	63.0	5.26	Cadia *.....	.....	.....	52.0	1.61
Big Stone Gap†.....	86	35	58.9	6.96	Centralia.....	82	30	52.6	1.09
Birdsneat *†.....	90	52	65.5	4.40	Chippewa Falls†.....	.....	.....	52.5	3.34
Blacksburg†.....	87	41	59.8	6.79	Columbus.....	81	24	52.5	3.35
Buchanan†.....	.....	.....	63.1	6.51	Crandon†.....	.....	.....	56.4	2.00
Cape Charles†.....	87	40	64.7	4.17	Delavan (near)†.....	80	36	56.4	1.66
Charlottesville.....	90	41	64.9	6.62	Depere†.....	74	30	52.0	2.44
Christiansburg†.....	.....	.....	6.69	6.69	Eau Claire.....	80	29	52.6	4.87
Clarksville†.....	.....	.....	5.84	5.84	Florence†.....	76	31	46.8	3.88
Columbia†.....	.....	.....	4.02	4.02	Fond du Lac†.....	77	29	53.2	1.20
Dale Enterprise†.....	85	37	59.5	5.63	Grantsburg†.....	76	28	47.8	2.45
Danville†.....	.....	.....	6.86	6.86	Hammond†.....	78	28	52.2	2.11
Emporia†.....	.....	.....	7.11	7.11	Harvey†.....	78	30	52.8	2.16
Falls Church†.....	.....	.....	4.79	4.79	Hayward†.....	81	24	49.2	2.50
Fredericksburg†.....	91	38	64.0	3.87	Hillsboro.....	81	28	53.0	3.22
Hampton.....	90	47	66.3	5.76	Hillsboro.....	82	31	54.6	2.20
Hot Springs.....	83	38	58.4	4.23	Juneau†.....	81	32	53.5	1.81
Irwin†.....	88	42	64.4	5.46	Koeppen *†.....	90	32	53.6	3.15
Lexington†.....	90	36	62.0	5.60	Lancaster†.....	82	32	54.8	2.82
Marion†.....	85	37	60.3	7.58	Lincoln.....	.....	.....	54.9	4.94
Nottaway.....	94	39	65.0	5.77	Madison†.....	78	34	53.9	2.27
Petersburg†.....	92	42	66.3	5.70	Manitowoc†.....	76	32	47.8	1.06
Richmond a†.....	93	37	65.2	5.08	Meadow Valley†.....	80	32	54.1	2.50
Richmond b†.....	.....	.....	4.68	4.68	Medford a†.....	.....	.....	54.8	3.80
Riverton†.....	.....	.....	5.04	5.04	Medford b†.....	79	27	48.8	3.46
Salem†.....	86	47	63.6	6.70	Mineral Point.....	80	30	53.8	3.49
Saluda†.....	91	41	64.2	6.19	Neillsville†.....	80	28	51.0	2.31
Spottsville†.....	92	41	66.2	5.95	New Holstein†.....	87	27	54.7	1.32
Stanardsville†.....	88	43	63.2	8.68	Oconomowoc†.....	78	31	53.5	1.72
Staunton†.....	90	38	60.8	5.85	Oconto.....	76	28	50.6	1.33
Stephens City†.....	93	40	63.6	4.69	Oacela†.....	81	26	50.5	2.58
Warsaw†.....	90	40	63.5	4.37	Oshkosh†.....	76	32	52.4	2.70
Woodstock†.....	.....	.....	4.43	4.43	Portage†.....	.....	.....	53.6	3.05
Wytheville†.....	84	40	59.4	5.59	Prairie du Chien.....	87	30	53.6	3.86
<i>Washington.</i>					Raymond.....	82	31	51.4	3.10
Aberdeen†.....	76	38	49.3	5.53	Reedsburg†.....	83	32	54.7	2.57
Centerville†.....	.....	.....	1.24	1.24	Sharon†.....	86	31	53.0	1.69
Chehalis†.....	78	37	53.7	3.56	Shawano.....	78	26	50.8	2.06
Chelan†.....	76	39	57.4	1.40	Shell Lake.....	85	27	51.2	4.13
Clyde†.....	84	32	55.2	3.03	Sparta b†.....	82	31	52.9	2.92
Colfax†.....	77	34	53.0	3.70	Stevens Point†.....	79	31	52.8	2.32
Davenport†.....	81	32	53.0	2.70	Valley Junction†.....	78	30	52.2	2.33
Dayton†.....	80	34	54.0	3.32	Viroqua.....	79	31	52.6	3.43
East Sound†.....	70	41	53.7	3.38	Watertown†.....	79	29	51.4	1.90
Elbe.....	.....	.....	5.69	5.69	Waukesha†.....	.....	.....	52.8	2.11
Ellensburg†.....	80	33	53.6	1.38	Westfield†.....	78	30	52.8	1.98
Ferry†.....	80	37	54.6	5.12	Weston *†.....	80	28	52.8	2.48
Fort Simcoe.....	.....	.....	54.5	1.12	Whitehall†.....	83	27	53.7	4.00
Fort Spokane.....	78	36	54.4	3.58	<i>Wyoming.</i>				
Fort Townsend.....	76	38	50.2	3.71	Big Horn Ranch†.....	84	19	43.2	0.49
Madrona *†.....	74	38	53.4	4.36	Bonanza†.....	91	24	53.6	1.80
Moxee Valley†.....	85	31	57.6	1.13	Camp Pilot Butte.....	84	23	50.8	0.50
Olga†.....	65	41	51.7	4.06	Evanston†.....	85	18	48.6	0.41
Pine Hill *.....	78	46	55.4	1.03	Fort McKinney.....	88	28	51.1	2.21
Pomeroy†.....	80	35	55.4	3.55	Fort Washakie.....	83	23	49.4	1.89
Pullman†.....	79	33	50.5	1.74	Fort Yellowstone.....	76	22	42.8	1.01
Rosalie†.....	75	32	50.3	3.49	Lander†.....	82	25	50.0	2.17
Silver Creek *.....	76	40	52.5	4.39	Laramie b.....	76	16	44.2	0.33

Meteorological record of voluntary observers, &c.—Continued.

Stations.	Temperature. (Fahrenheit.)			Precip'n.	Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean			Max.	Min.	Mean	
<i>Wyoming—Cont'd.</i>				<i>Ins.</i>	<i>Mexico.</i>				<i>Ins.</i>
Lusk†.....	91	22	47.6	1.28	Leon de Aldamas†.....	92	54	72.2	3.26
Saratoga†.....	77	38	45.8	2.70	Puebla†.....	84	57	67.5	9.45
Sheridan.....	91	26	52.0	3.40	<i>New Brunswick.</i>				
Sundance.....	88	19	48.6	3.49	Saint John.....	68	34	49.6	3.24
Wheatland†.....	87	24	53.0	0.90	<i>West Indies.</i>				
<i>Canada.</i>					Hamilton, Ber†.....	76	62	70.2	6.46
Fort Francis, Ont.....	73	22	46.0	2.37					

Reports received too late to be used in general discussion of weather for May, 1893.

<i>Arizona.</i>					<i>Massachusetts.</i>				
Dudleyville†.....	98	40	72.6	1.37	Amherst†.....	85	30	56.6	4.28
<i>California.</i>					<i>Missouri.</i>				
Saticoy†.....	.....	.....	0.00	0.00	Bryant.....	88	35	63.2	6.25
<i>Georgia.</i>					<i>South Dakota.</i>				
Lincolnton†.....	97	42	69.8	3.73	Westington†.....	.....	.....	.....	1.95
<i>Idaho.</i>					<i>Texas.</i>				
Garden Valley†.....	86	26	60.0	1.68	Childress†.....	104	34	67.1	2.50
<i>Kansas.</i>					Colorado b *.....	99	55	77.6	.....
Morse†.....	84	36	59.0	5.46	Panther *†.....	103	51	73.6	3.31
Winona *.....	102	32	62.8	2.00	Waco†.....	95	46	73.8	3.79

Received too late for publication in April, 1893.

<i>California.</i>					<i>Nebraska—Cont'd.</i>				
Mammoth Tank *.....	100	50	75.6	0.00	Tecumseh *†.....	95	26	49.5	0.56
Mountain View.....				1.28	Theodore†.....	82	25	42.4	.....
San Pedro *.....	79	47	61.2	0.00	<i>Nevada.</i>				
Tropico *.....	80	45	57.7	0.00	Elko (near) *.....	71	16	38.7	0.80
<i>Colorado.</i>					Wadsworth *.....	80	28	41.6	0.20
Lamar†.....	91	17	54.1	0.23	<i>New Mexico.</i>				
Lay *†.....	67	22	39.3	1.34	Estalima Springs†.....	75	15	.....	0.00
Surface Creek†.....	73	18	46.0	0.40	<i>North Carolina.</i>				
<i>Florida.</i>					Tarboro.....	93	36	62.6	1.63
Brooksville†.....	83	52	72.2	5.60	Warrenton.....				1.32
<i>Illinois.</i>					<i>Ohio.</i>				
Louisville.....	83	32	55.9	10.85	Weymouth.....	83	20	47.1	3.53
McLeansboro *.....	87	34	58.0	6.02	<i>Oregon.</i>				
<i>Iowa.</i>					Grants Pass *.....	82	30	49.9	2.84
Jefferson†.....	80	17	47.0	.....	<i>South Dakota.</i>				
<i>Kentucky.</i>					Carthage.....				4.01
West Point.....			54.2	.....	<i>Texas.</i>				
<i>Missouri.</i>					Fredericksburg *†.....	97	37	70.7	1.95
Jefferson City†.....	87	25	54.0	.....	Panther *†.....	104	45	74.8	1.20
<i>Montana.</i>					<i>West Virginia.</i>				
Bozeman†.....	64	14	37.0	0.86	Huntington†.....	90	30	57.0	5.48
Cokedale†.....			34.2	4.50	<i>Mexico.</i>				
Hogan.....	15		1.30	.....	Puebla.....	83	56	68.0	1.21
<i>Nebraska.</i>					<i>West Indies.</i>				
Brandon.....			0.10	.....	Grand Turk Island.....				0.45
Crete.....	92	24	48.9	0.61					

Data from Canadian stations for the month of May, 1893.

Station.	Pressure.			Temperature.		Precipitation.		Prevailing direction of wind.
	Mean not reduced.	Mean reduced.	Departure from normal.	Mean.	Departure from normal.	Total.	Departure from normal.	
Saint John's, N. F.	29.82	29.97	+ .02	40.8	- 3.6	2.16	.....	se.
Anticosti Island.....	29.84	29.87	- .04	39.8	- 0.9	1.54	.....	se.
Halifax, N. S.	29.80	29.93	- .04	48.0	+ 1.0	5.07	+ 0.35	w.
Grand Manan, N. B.	29.84	29.89	.....	48.6	.....	3.80	+ 0.27	w.
Yarmouth, N. S.	29.82	29.90	- .08	48.0	+ 1.0	4.24	+ 0.21	s.
Saint Andrews, N. B.	29.80	29.85	.....	49.7	.....	2.43	- 0.88	se.
Charlottetown, P. E. I. .	29.85	29.89	.....	48.6	.....	1.29	- 1.86	se.
Chatham, N. B.	29.86	29.88	- .07	48.1	+ 2.1	3.93	+ 0.03	se.
Father Point, Que.	29.83	29.86	- .08	43.2	- 0.3	2.53	+ 0.10	w.
Quebec, Que.	29.52	29.85	- .10	48.5	- 1.0	3.85	+ 0.73	ne.
Montreal, Que.	29.04	29.85	- .08	53.3	- 0.7	3.35	+ 0.27	sw.
Rockliffe, Ont.	29.30	29.81	- .13	50.6	+ 1.3	5.84	+ 3.24	nw.
Kingston, Ont.	29.52	29.84	- .12	51.4	- 1.6	5.39	+ 2.64	sw.
Toronto, Ont.	29.50	29.88	- .10	51.4	- 1.6	3.98	+ 1.33	nw.
White River, Ont.	28.59	29.95	.....	43.6	.....	2.29	.....	n.
Port Stanley, Ont.	29.26	29.90	- .08	51.0	.....	4.02	+ 1.18	w.
Saugeen, Ont.	29.17	29.89	- .07	49.0	- 1.0	3.52	- 0.05	s.
Parry Sound, Ont.	29.17	29.87	- .09	49.1	- 1.4	2.68	- 0.64	w.

Data from Canadian stations—Continued.

Station.	Pressure.			Temperature.		Precipitation.		Prevailing direction of wind.
	Mean not reduced.	Mean reduced.	Departure from normal.	Mean.	Departure from normal.	Total.	Departure from normal.	
Port Arthur, Ont.	29.20	29.90	- .02	45.0	- 1.5	0.79	- 1.39	n.
Winnipeg, Man.	29.09	29.91	- .02	51.8	+ 1.8	2.23	- 0.59	ne.
Minnedosa, Man.	28.09	29.88	- .01	50.7	+ 1.7	0.74	- 0.90	e.
Qu'Appelle, Assiniboia..	27.64	29.88	- .00	51.0	+ 1.0	1.49	- 0.03	s.
Medicine Hat, Assiniboia	27.54	29.81	- .05	55.8	+ 0.3	1.09	- 0.07	w.
Swift Current, Assiniboia	27.32	29.87	- .02	52.7	+ 1.7	0.37	- 1.12	se.
Calgary, Alberta	26.34	29.85	- .03	49.4	- 1.6	2.47	+ 0.98	n.
Prince Albert, Sask.	28.33	29.82	.....	51.2	.....	0.37	.....	nw.
Spence's Bridge, B. C.	29.08	29.89	.....	56.6	.....	1.20	.....	sw.
Edmonton, Alberta	27.51	29.82	- .10	51.6	+ 2.0	3.09	+ 1.49	nw.
Battleford, Saskatchewan	28.10	29.81	.....	52.4	.....	0.26	.....	se.
Grindstone, G. S. L.	29.83	29.86	.....	41.5	.....	1.46	.....	w.
Sandy Point, N. F. ....	.....	.....	.....	.....	.....	.....	.....	.....
April, 1893.								
Anticosti Island.....	29.92	29.95	+ .03	28.2	- 2.6	0.84	.....	n.
Bird Rocks.....	29.82	29.95	.....	28.6	.....	1.59	.....	ne.
Hamilton, Bermuda	30.02	30.18	+ .13	65.6	.....	2.55	.....	sw.

Table of miscellaneous meteorological data for May, 1893—Weather Bureau observations—Continued.

Districts and stations.	Elevation above sea-level, feet.	Length of record, years.	Pressure, in inches.			Temperature of the air, in degrees Fahrenheit.							Humidity and precipitation.					Wind.			Clear days.	Partly cloudy days.	Cloudy days.	Average cloudiness, tenths.	Mean temperature data since opening of station.								
			Mean pressure, 8 a. m. and 8 p. m. + 2.	Mean reduced.	Departure from normal.	Mean max. and min. + 2.	Departure from normal.	Maximum.	Date.	Mean minimum.	Date.	Mean maximum.	Greatest daily range.	Mean temperature of the dew-point.	Mean relative humidity, per cent.	Precipitation, in inches.	Departure from normal.	Days with or more.	Total movement, miles.	Prevailing direction.					Maximum velocity.		Year.	Lowest for month.	Year.				
																									Miles per hour.	Direction.							
Ex. Northwest—Con.																																	
Fort Buford	1,890	15	27.88	29.88	-.01	53.0	-1.3	87	17	66	28	1	40	49	35	55	4.70	+2.0	7	8,489	ne.	48	nw.	19	9	5	17	6.3	58.3	1887	47.2	1892	
Upper Miss. Valley.																																	
Minneapolis	758	23	29.09	29.91	-.01	54.3	-2.3	79	19	64	32	1	44	30	40	61	2.50	+0.1	11	8,835	ne.	56	w.	11	5	16	10	5.6	54.1	1887	49.8	1888	
Red Wing	758	23	29.01	29.92	-.01	53.8	-3.4	79	19	63	32	1	43	27	40	61	2.17	+0.1	11	6,835	ne.	56	w.	11	5	14	9	5.6	54.1	1887	49.8	1888	
Saint Paul	850	23	29.01	29.92	-.01	53.8	-3.4	79	19	63	32	1	45	27	38	59	2.66	+0.6	11	5,576	nw.	38	ne.	22	11	9	11	5.5	54.1	1887	49.8	1888	
La Crosse	720	21	29.15	29.92	-.02	56.0	-2.0	83	21	67	33	1	46	35	42	63	3.14	+1.1	11	5,936	n.	36	ne.	22	8	15	8	5.6	57.7	1881	51.7	1888	
Davenport	613	22	29.23	29.88	-.09	57.6	-2.8	83	22	67	37	4	48	27	44	64	2.67	+1.8	12	7,843	ne.	42	sw.	22	8	19	11	5.6	56.9	1881	55.2	1888	
Des Moines	869	15	28.99	29.91	-.03	56.9	-4.3	83	21	67	33	1	47	31	46	69	2.84	+2.2	13	6,908	nw.	35	sw.	19	5	18	8	5.9	57.4	1880	54.5	1888	
Dubuque	651	20	29.20	29.90	-.06	56.8	-2.4	82	19	66	34	2	47	30	48	75	3.06	+1.0	14	4,847	w.	31	w.	11	8	10	13	6.0	57.4	1881	53.9	1888	
Keokuk	613	22	29.25	29.91	-.04	59.8	-2.4	85	20	69	36	2	50	27	47	78	4.36	+0.2	12	5,646	nw.	36	w.	23	12	12	7	4.9	60.8	1881	56.8	1882	
Cairo	359	22	29.56	29.95	-.01	65.0	-2.1	85	26	73	48	2	52	30	48	69	6.70	+2.9	11	5,502	s.	50	s.	23	11	8	12	5.2	67.7	1880	63.8	1882	
Springfield, Ill.	644	14	29.24	29.92	-.07	59.9	-2.5	87	20	70	38	2	52	31	51	71	7.41	+2.2	15	7,478	n.	32	w.	12	7	13	11	5.6	69.3	*	57.9	1882	
Hannibal	534	22	29.33	29.90	-.03	61.0	-2.0	87	20	70	38	2	52	31	51	71	7.04	+1.3	14	7,724	n.	40	se.	21	10	11	5	4	6	69.3	*	57.9	1882
Saint Louis	571	23	29.31	29.91	-.05	64.0	-2.0	89	20	72	43	2	55	32	52	68	5.42	+1.3	8	9,051	se.	50	sw.	25	11	12	8	4.6	71.4	1887	59.5	1882	
Missouri Valley.																																	
Columbia	963	8	28.90	29.92	-.06	61.6	-3.0	86	20	74	34	2	51	37	49	69	6.67	+0.6	14	5,756	se.	40	se.	22	9	11	5	4.1	63.6	1890	59.8	1892	
Kansas City	1,350	22	28.49	29.91	-.06	63.2	-4.0	84	20	73	40	2	53	34	51	66	5.79	+0.6	14	7,375	se.	45	s.	31	12	11	8	4.5	64.6	1890	59.7	1882	
Springfield, Mo.	857	22	29.01	29.92	-.02	61.1	-3.3	87	20	71	37	2	51	31	47	66	5.82	+0.5	9	7,555	s.	45	nw.	22	6	12	13	6.1	70.1	1880	58.7	1882	
Leavenworth	6	6	28.75	29.93	-.02	62.0	-3.0	86	10	69	36	2	49	33	44	62	6.34	+0.7	11	6,405	ne.	36	ne.	22	18	5	8	4.1	69.4	1880	59.6	1892	
Topeka	1,113	23	28.75	29.93	-.02	62.0	-3.0	86	10	69	36	2	49	33	44	62	6.34	+0.7	11	6,405	ne.	36	ne.	22	18	5	8	4.1	69.4	1880	59.6	1892	
Omaha	6	6	28.75	29.93	-.02	62.0	-3.0	86	10	69	36	2	49	33	44	62	6.34	+0.7	11	6,405	ne.	36	ne.	22	18	5	8	4.1	69.4	1880	59.6	1892	
Crete	6	6	28.75	29.93	-.02	62.0	-3.0	86	10	69	36	2	49	33	44	62	6.34	+0.7	11	6,405	ne.	36	ne.	22	18	5	8	4.1	69.4	1880	59.6	1892	
Valentine	1,165	8	28.66	29.90	-.03	57.0	-3.2	86	17	66	27	2	42	40	39	64	2.07	+1.7	8	8,356	n.	52	s.	18	11	10	5	4.1	61.1	1887	48.4	1892	
Sioux City	1,470	12	28.35	29.91	-.01	54.8	-1.5	88	16	66	32	2	44	35	41	63	1.94	+1.0	9	7,713	n.	84	nw.	21	12	8	11	5.2	62.1	1887	48.4	1892	
Pierre	1,470	12	28.35	29.91	-.01	54.8	-1.5	88	16	66	32	2	44	35	41	63	2.49	+1.0	9	10,357	se.	56	se.	18	12	9	10	5.2	62.1	1887	48.4	1892	
Huron	1,310	12	28.63	29.92	-.01	54.0	-1.5	88	16	66	32	2	44	35	41	63	2.49	+1.0	9	10,357	se.	56	se.	18	12	9	10	5.2	62.1	1887	48.4	1892	
Yankton	1,232	20	28.61	29.93	-.01	56.7	-1.8	86	13	68	32	2	45	43	41	66	2.47	+1.3	7	7,935	n.	48	se.	21	15	5	11	4.5	66.1	1880	51.4	1892	
Northern Slope.																																	
Havre	2,477	13	27.25	29.84	-.07	54.2	+0.9	87	17	68	25	1	41	42	39	63	1.80	+0.4	11	7,285	w.	48	nw.	12	5	23	3	5.2	57.0	1884	48.0	1892	
Miles City	2,374	16	27.37	29.84	-.07	55.0	+1.4	87	17	68	25	1	41	42	39	63	4.07	+1.8	10	5,957	se.	36	n.	21	11	8	12	5.3	54.6	1886	49.0	1892	
Helena	4,118	14	25.74	29.93	-.00	51.2	-1.8	87	16	62	32	2	41	37	35	60	3.04	+1.6	13	7,096	sw.	48	nw.	17	8	12	11	5.7	55.4	1881	47.7	1892	
Rapid City	3,280	9	26.54	29.90	-.03	51.9	-1.2	90	17	64	26	1	40	43	34	55	1.73	+2.6	11	6,910	se.	48	w.	18	8	12	11	5.8	59.7	1881	47.2	1892	
Cheyenne	6,105	23	23.94	29.93	-.01	48.3	-3.0	82	18	60	20	1	36	41	27	51	1.64	+0.5	14	7,540	nw.	60	w.	18	8	16	7	5.4	55.9	1874	45.7	1882	
Lander	5,377	24	26.56	29.92	-.01	49.0	-3.0	83	16	63	36	1	35	46	26	49	1.57	+0.9	10	4,409	w.	33	w.	18	17	6	4	4.0	55.9	1874	45.7	1882	
Kearney	2,208	22	27.61	29.91	-.01	57.0	-2.9	88	10	69	36	2	42	47	38	58	7.49	+1.0	10	10,541	ne.	72	n.	22	11	12	8	4.0	63.0	1886	52.1	1892	
North Platte	2,841	19	27.01	29.94	+.01	55.6	-2.9	88	10	69	36	2	42	47	38	58	7.49	+1.0	10	10,541	ne.	72	n.	22	11	12	8	4.0	63.0	1886	52.1	1892	
Middle Slope.																																	
Colorado Springs	6,098	14	23.96	29.94	+.02	51.6	-3.3	82	17	64	25	1	39	42	28	49	1.34	+1.5	7	8,679	n.	55	nw.	19	11	10	10	5.3	63.5	1886	49.8	1884	
Denver	5,267	22	24.68	29.94	+.02	54.3	-2.3	87	17	67	28	1	42	40	30	49	3.09	+0.3	9	6,406	sw.	46	nw.	18	12	9	10	4.9	61.0	1886	51.5	1892	
Pikes Peak	16	17	27.73	29.89	-.02	50.9	-2.0	80	17	62	27	1	42	45	24	40	1.85	+0.3	13	19,350	w.	59	sw.	23	10	10	4	4.0	61.0	1886	51.5	1892	
Pueblo	4,734	5	25.17	29.89	-.02	57.1	-2.0	90	17	72	24	1	42	45	24	40	0.39	+0.3	9	7,149	nw.	48	sw.	18	12	9	10	4.9	61.0	1886	51.5	1892	
Concordia	1,410	9	26.43	29.91	-.04	60.8	-1.7	91																									

STATIONS OF THE WEATHER BUREAU.

Station.	Observer.	Station.	Observer.	Station.	Observer.
<i>First Order.*</i>					
Abilene, Tex.	Allen Buell.	Lander, Wyo.	R. M. Crawford.	Columbia, Tex.	J. S. Rogers.
Albany, N. Y.	A. F. Sims.	Leavenworth, Kans.	L. A. Welsh.	Corsicana, Tex.	E. L. Gibson.
Alpena, Mich.	H. McP. Baldwin.	Lexington, Ky.	V. E. Muncy.	Cuero, Tex.	Dr. J. M. Reuss.
Atlanta, Ga.	Clark Morrill.	Little Rock, Ark.	F. H. Clarke.	Dallas, Tex.	H. P. Perry.
Augusta, Ga.	David Fisher.	Los Angeles, Cal.	G. E. Franklin.	Hearne, Tex.	W. A. Snell.
Baltimore, Md.	Dr. C. P. Cronk.	Louisville, Ky.	Frank Burke.	Houston, Tex.	D. R. Saunders.
Bismarck, N. Dak.	Dr. C. P. Cronk.	Manchester, N. H.	J. H. Melton.	Huntsville, Tex.	W. Y. Barr.
Boston, Mass.	Wm. H. Fallon.	Meridian, Miss.	D. P. McCallum.	Luling, Tex.	J. E. Fisher.
Buffalo, N. Y.	J. Warren Smith.	Miles City, Mont.	H. R. Boynton.	Longview, Tex.	G. W. Kreeh.
Chicago, Ill.	D. Cuthbertson.	Mobile, Ala.	Jas. A. Barry.	Orange, Tex.	J. H. Kelly.
Cincinnati, Ohio.	Dr. H. C. Frankenhof.	Montgomery, Ala.	Arthur E. Hackett.	Sherman, Tex.	W. G. Jackson.
Cleveland, Ohio.	S. S. Bassler.	Montrose, Colo.	P. J. Bolton.	Tyler, Tex.	W. A. Hartel.
Colorado Springs, Colo.	W. B. Stockman.	New London, Conn.	R. O. Lasenby.	Waco, Tex.	W. H. Gorder.
Columbus, Ohio.	U. G. Myers.	Northfield, Vt.	Wm. Line.	Weatherford, Tex.	J. Stickford.
Davenport, Iowa.	C. M. Strong.	North Platte, Nebr.	J. C. Piercy.	Little Rock, Ark. (center).	
Denver, Colo.	F. J. Wala.	Oklahoma, Okla. T.	Jas. I. Widmeyer.	Brinkley, Ark.	A. J. Hahn.
Des Moines, Iowa.	J. J. Gilligan.	Oswego, N. Y.	J. G. Linsley.	Forrest, Ark.	J. H. Bard.
Detroit, Mich.	Dr. G. M. Chappel.	Palestine, Tex.	M. H. Perry.	Helena, Ark.	J. A. Gaschen.
Dodge City, Kansas.	E. A. Evans.	Parkersburg, W. Va.	W. W. Dent.	Malvern, Ark.	Miss M. E. Butler.
Duluth, Minn.	Geo. T. Todd.	Pensacola, Fla.	E. C. Easton.	Newport, Ark.	R. C. McMan.
Eastport, Mo.	B. H. Bronson.	Pierre, S. Dak.	W. A. Shaw.	Paris, Tex.	C. E. Thorne.
El Paso, Tex.	D. C. Murphy.	Point Barrow, Alaska.	L. M. Stevenson.	Pine Bluff, Ark.	J. E. O'Connor.
Galveston, Tex.	W. D. Lutz.	Port Angeles, Wash.	Wm. Bell.	Prescott, Ark.	Wm. Frigana.
Havre, Mont.	Chas. M. Clie.	Port Huron, Mich.	Wm. M. Edmondson.	Russellville, Ark.	O. M. Ellsworth.
Holena, Mont.	E. J. Glass.	Portland, Me.	E. J. Jones.	Texarkana, Ark.	M. J. Nash.
Huron, S. Dak.	S. W. Glenn.	Pueblo, Colo.	F. H. Brandenburg.	Memphis, Tenn. (center).	
Indianapolis, Ind.	C. P. R. Wappenhaus.	Raleigh, N. C.	C. F. von Herrmann.	Arlington, Tenn.	A. T. B. Etheridge.
Jacksonville, Fla.	E. R. Derrain.	Rapid City, S. Dak.	Wm. Norrington.	Batesville, Miss.	J. M. Cox.
Kansas City, Mo.	P. Connor.	Red Bluff, Cal.	John J. McLenn.	Bolivar, Tenn.	W. F. McCarley.
Keeler, Cal.	H. E. Wilkinson.	Red Wing, Minn.	F. T. Williams.	Brownsville, Tenn.	J. M. Johnson.
Key West, Fla.	H. B. Boyer.	Sacramento, Cal.	J. A. Barwick.	Corinth, Miss.	W. O. Henson.
Knoxville, Tenn.	Henry Pennywitt.	Saint Vincent, Minn.	H. W. Grasse.	Covington, Tenn.	W. N. White.
Lyndhurst, Va.	J. N. Ryker.	San Antonio, Tex.	L. F. Passalaigne.	Decatur, Ala.	J. M. Vickroy.
Manistee, Mich.	S. L. Dasher.	Sandusky, Ohio.	B. F. Hough.	Dyersburg, Tenn.	H. G. Wood.
Marquette, Mich.	H. R. Patrick.	Seattle, Wash.	G. H. Willson.	Hernando, Miss.	L. B. Jones.
Memphis, Tenn.	W. M. Wilson.	Shreveport, La.	C. A. Smith.	Holly Springs, Miss.	N. T. Bryant.
Milwaukee, Wis.	W. L. Moore.	Sioux City, Iowa.	U. G. Pursell.	Milan, Tenn.	O. F. Cantwell.
Moorehead, Minn.	J. W. Byram.	Southport, N. C.	Louis Dorman.	Tusculum, Ala.	John Lasseter.
Nantucket, Mass.	B. A. Blundon.	Springfield, Ill.	John Craig.	Mobile, Ala. (center).	
Nashville, Tenn.	J. B. Marbury.	Springfield, Mo.	T. S. Collins.	Aberdeen, Miss.	O. L. McKay.
New Haven, Conn.	H. J. Cox.	Stanton, Fort, N. Mex.	Mrs. M. H. Bailey.	Columbus, Miss.	W. B. Hopkins.
New Orleans, La.	E. E. Kerkam.	Tatoosh Island, Wash.	Frank R. Beahan.	Evergreen, Ala.	Miss Mattie Lee.
New York City.	R. E. Dunn.	Titusville, Fla.	Jos. E. Lanouette.	Livingston, Ala.	L. J. Marbury.
Norfolk, Va.	H. A. Crane.	Tucson, Ariz.	Wm. Burrows.	Macon, Miss.	B. J. Allen.
Olympia, Wash.	H. F. Alciatore.	Valentine, Nebr.	John Fitzgerald.	Okolona, Miss.	S. J. Russell.
Omaha, Nebr.	Geo. E. Hunt.	Walla Walla, Wash.	Fitzhugh Newman.	Thomasville, Ala.	Jas. White.
Philadelphia, Pa.	L. M. Dey.	Wichita, Kans.	Dr. Fred. L. Johnson.	Waynesboro, Miss.	W. R. McKinley.
Pikes Peak, Colo.	U. G. Myers.	Winnemucca, Nev.	Geo. D. Boucher.	Montgomery, Ala. (center).	
Pittsburg, Pa.	O. D. Stewart.	Woods Holl, Mass.	J. P. Slaughter.	Eufaula, Ala.	O. T. Moore.
Portland, Oregon.	B. S. Pague.	Yankton, S. Dak.	A. J. Davis.	Fort Deposit, Ala.	W. L. Van Pelt.
Rochester, N. Y.	A. L. White.			Marion, Ala.	Miss A. L. Stephenson.
Roseburg, Oregon.	Thos. Gibson.	<i>Third Order.†</i>		Opelika, Ala.	W. L. Carmack.
Saint Louis, Mo.	W. H. Hammon.	Astoria, Oregon.	John Grover.	Pine Apple, Ala.	J. B. Raab.
Saint Paul, Minn.	P. F. Lyons.	Auburn, Ala.	Prof. P. H. Mell.	Union Springs, Ala.	T. P. Wade.
Salt Lake City, Utah.	Geo. N. Salisbury.	Cape Henry, Va.	J. P. Sherry.	New Orleans, La. (center).	
San Diego, Cal.	M. L. Hearne.	Columbia, Mo.	H. A. McNally.	Alexandria City, La.	L. C. Giffe.
San Francisco, Cal.	P. T. Jenkins.	Columbia, S. C.	J. H. Harmon.	Amite, La.	Miss Florence Hills.
Santa Fe, N. Mex.	H. B. Hersey.	Crete, Nebr.	G. A. Loveland.	Brookhaven, Miss.	E. M. Bee.
Sault Ste. Marie, Mich.	C. L. Bozell.	Currituck Inlet, N. C.	(Temporarily closed.)	Cheyneville, La.	W. W. Wall.
Savannah, Ga.	P. H. Smyth.	East Clallam, Wash.	R. S. Dummick.	Coushatta, La.	L. M. Howard.
Spokane, Wash.	Chas. Stewart.	Escanaba, Mich.	J. C. Morrell.	Hazlehurst, Miss.	B. Fugate.
Tampa, Fla.	Thomas J. Considine.	Ithaca, N. Y.	R. M. Hardinge.	Lafayette, La.	J. J. Davidson.
Toledo, Ohio.	E. A. Hanner.	Mico, Fla.	Hal. P. Hardin.	Minden, La.	W. S. Hunter.
Vicksburg, Miss.	Dr. Robert J. Hyatt.	Minneapolis, Minn.	E. A. Beala.	Natchez, Miss.	C. Steitenroth.
Washington, D. C.	S. W. Beall.	Narragansett Pier, R. I.	Mrs. M. E. Conway.	Natchitoches, La.	Sam Levy.
Wilmington, N. C.	F. P. Chaffee.	Neah Bay, Wash.	Charles Adie.	Port Gibson, Miss.	H. H. Crisler.
Yuma, Ariz.	A. Ashenberger.	New Brunswick, N. J.	E. W. McGann.	Savannah, Ga. (center).	
		Point Reyes Light, Cal.	T. R. Ryan.	Albany, Ga.	J. S. Clark.
		Port Crescent, Wash.	Otto B. Hart.	Alapaha, Ga.	C. I. Jones.
		Pysh, Wash.	J. P. Fallihoe.	Americus, Ga.	L. A. Smith.
		Topeka, Kans.	T. B. Jennings.	Bainbridge, Ga.	J. E. Peacock.
		Vineyard Haven, Mass.	W. W. Neifert.	Cordele, Ga.	W. D. Webster.
		<i>Special Cotton Region Stations.‡</i>		Eastman, Ga.	C. H. Peacock.
		Atlanta, Ga. (center).		Fort Gaines, Ga.	S. E. Lewis.
		Columbus, Ga.	J. W. Long.	Gainesville, Fla.	James Bell.
		Gainesville, Ga.	R. T. Murphy.	Millen, Ga.	J. R. Sheppard.
		Greenville, S. C.	Mrs. S. A. Crittenden.	Quitman, Ga.	A. W. Thomas.
		Griffin, Ga.	W. B. Stuart.	Thomasville, Ga.	Robt. Thomas, Jr.
		Macon, Ga.	W. M. Craven.	Way Cross, Ga.	F. L. Hall.
		Newnan, Ga.	Nora M. Avery.	Vicksburg, Miss. (center).	
		Spartanburg, S. C.	F. P. Robinson.	Jackson, Miss.	H. S. Wright.
		Toccoa, Ga.	J. A. Glenn.	Lake, Miss.	Miss Willie Wilkins.
		West Point, Ga.	T. J. Jennings.	Monroe, La.	W. W. Renwick.
		Augusta, Ga. (center).		Boiling Fork, Miss.	S. W. Langford.
		Allendale, S. C.	C. B. Farmer.	Wilmington, N. C. (center).	
		Athens, Ga.	W. D. Hammet.	Cheraw, S. C.	W. R. Godfrey.
		Batesburg, S. C.	D. P. Chapley.	Florence, S. C.	P. H. Walsh.
		Blackville, S. C.	S. S. Turner.	Goldsboro, N. C.	Miss Nettie Thomas.
		Camak, Ga.	J. A. Hampton.	Greensboro, N. C.	A. M. Perkins.
		Greenwood, S. C.	F. H. Haid.	Lumberton, N. C.	B. M. Davis.
		Union Point, Ga.	R. F. Bryan.	Newbern, N. C.	W. G. Boyd.
		Washington, Ga.	Miss Nellie Summers.	Weldon, N. C.	T. A. Clarke.
		Waynesboro, Ga.	H. W. Blount.	<i>Sugar and Rice Stations.‡</i>	
		Charleston, S. C. (center).		New Orleans, La. (center).	
		Hardeeville, S. C.	W. J. Evans.	Baton Rouge, La.	H. A. Morgan.
		Kingstree, S. C.	T. F. Willis.	Covington, La.	F. W. Hosmer.
		St. Georges, S. C.	W. G. Sease.	Donaldsonville, La.	W. D. Park.
		St. Matthews, S. C.	J. S. Wannamaker.	Franklin, La.	E. M. Cornay.
		Youngs Island, S. C.	E. L. Commins.	Lake Charles, La.	Wm. Meyer.
		Galveston, Tex. (center).	A. J. Embree.	Opelousas, La.	W. A. Sandoz.
		Belton, Tex.	J. G. Sloan.	Rayne, La.	I. A. Smith.
		Brenham, Tex.		Schriever, La.	John T. Moore, Jr.
<i>Second Order.†</i>					
Amarillo, Tex.	Wayland Bailey.				
Atlantic City, N. J.	J. W. Bauer.				
Baker City, Oregon.	Paul Daniels.				
Block Island, R. I.	Wm. Davis.				
Buford, Fort, N. Dak.	E. C. Hobbs.				
Calro, Ill.	E. H. Emery.				
Canby, Fort, Wash.	R. O. Williams.				
Carson City, Nev.	Ford A. Carpenter.				
Charleston, S. C.	L. N. Jesunofsky.				
Charlotte, N. C.	I. G. Gardiner.				
Chattanooga, Tenn.	L. M. Pindell.				
Cheboygan, Mich.	J. H. Clery.				
Cheyenne, Wyo.	E. M. Ravenscraft.				
Clemson College, S. C.	B. R. Stuart.				
Concordia, Kans.	L. M. Tarr.				
Corpus Christi, Tex.	George Reeder.				
Dubuque, Iowa.	S. C. Emery.				
Erie, Pa.	Peter Wood.				
Eureka, Cal.	Maurice Connell.				
Fort Smith, Ark.	R. Q. Grant.				
Fresno, Cal.	J. R. Williams.				
Grand Haven, Mich.	Geo. W. Felger.				
Green Bay, Wis.	F. W. Conrad.				
Hannibal, Mo.	Wm. E. Butler.				
Harrisburg, Pa.	Frank Ridgway.				
Hatteras, N. C.	H. B. Dick.				
Idaho Falls, Idaho.	James H. Smith.				
Jupiter, Fla.	A. J. Mitchell.				
Kearney, Nebr.	H. H. Curley.				
Kookuk, Iowa.	F. Z. Gosowisch.				
Kittyhawk, N. C.	J. D. Blagden.				
La Crosse, Wis.	W. U. Simons.				

*Take two observations daily, and also record continuously important meteorological phenomena, such as wind-direction and velocity, precipitation, temperature, barometric pressure, etc., by means of self-registering instruments. †Take two observations daily. ‡Take one observation, in addition to other special duties. §Take one observation daily from April 15 to November 30 each year, and telegraph it to district centers (regular Weather Bureau stations).

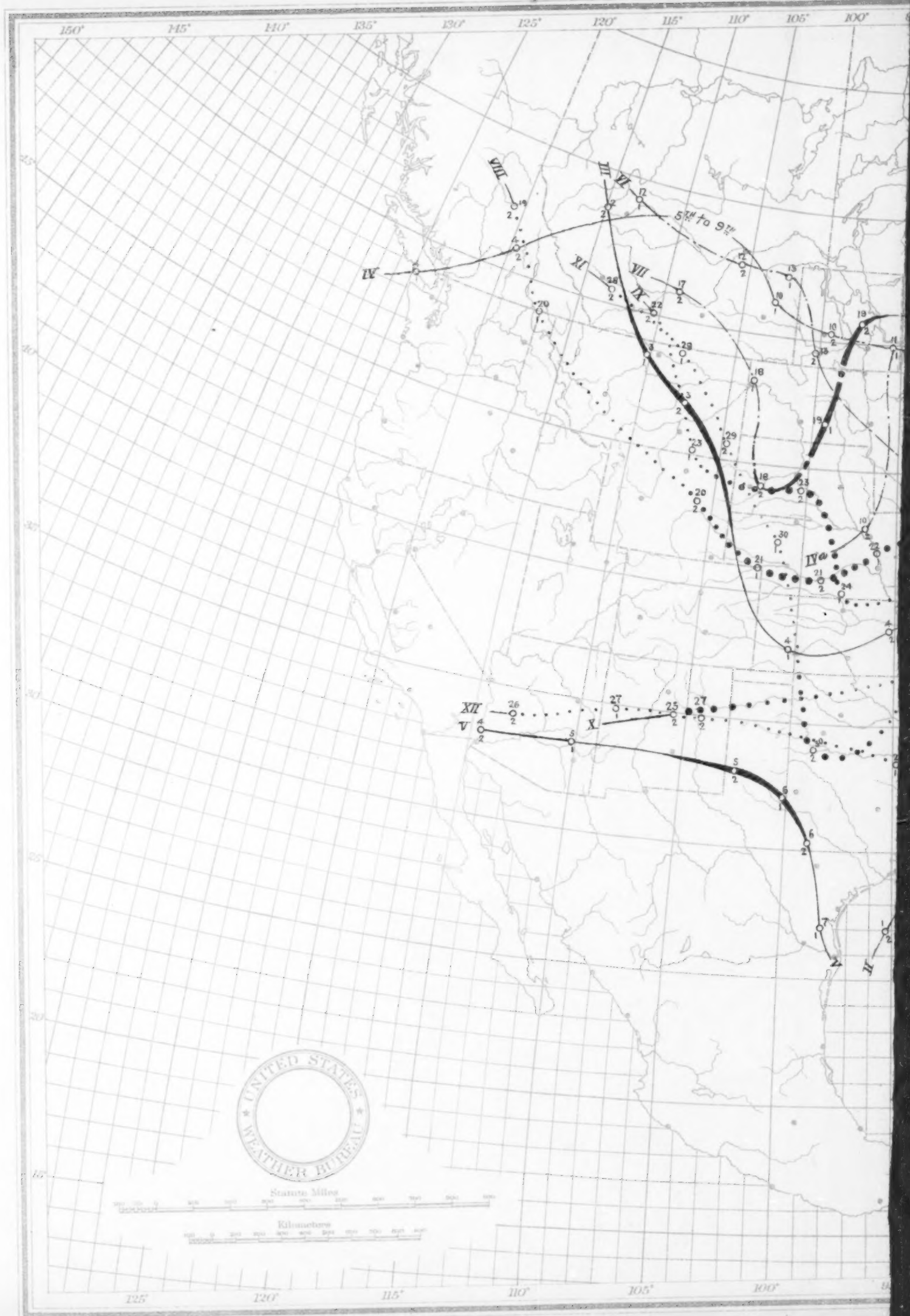
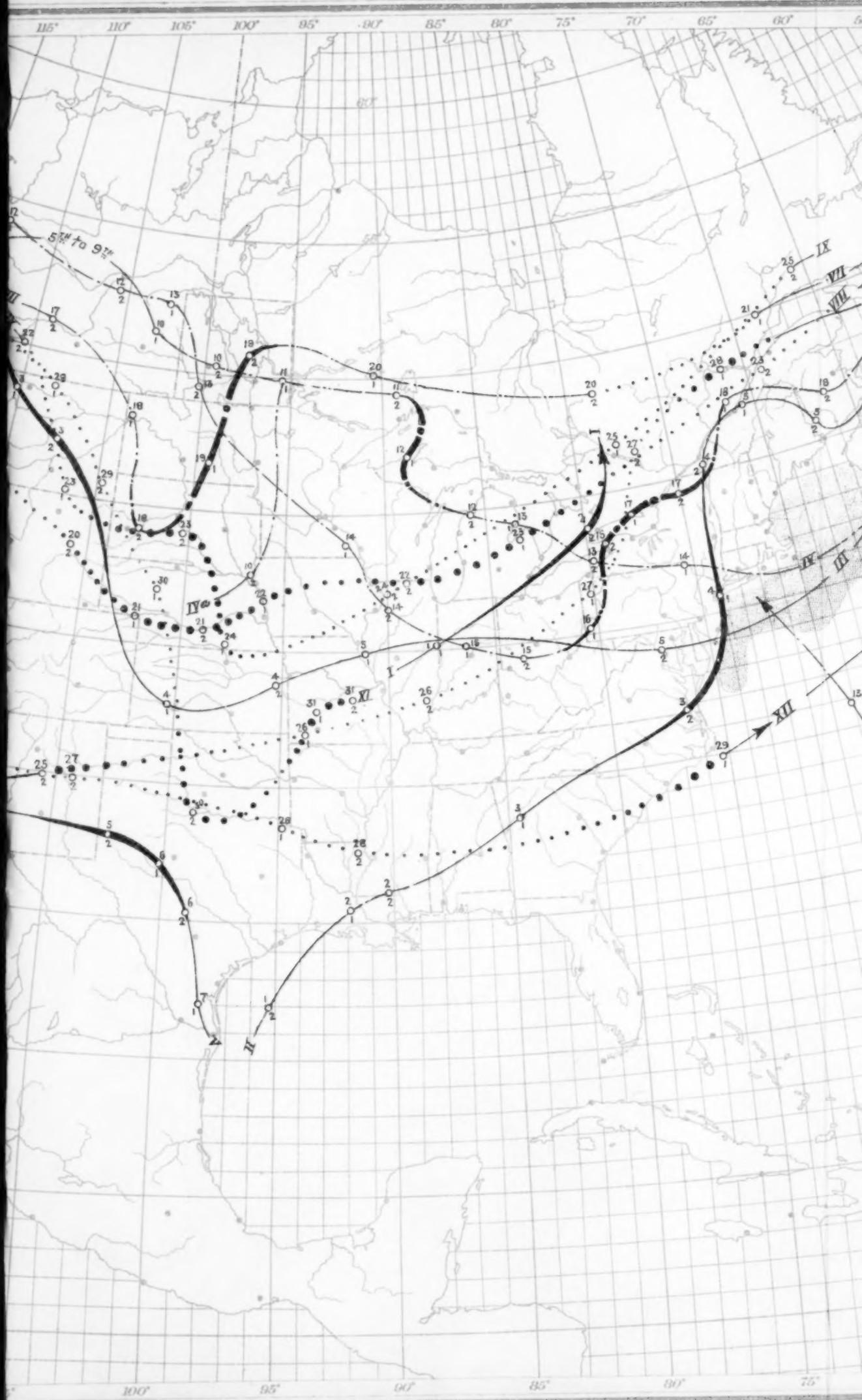
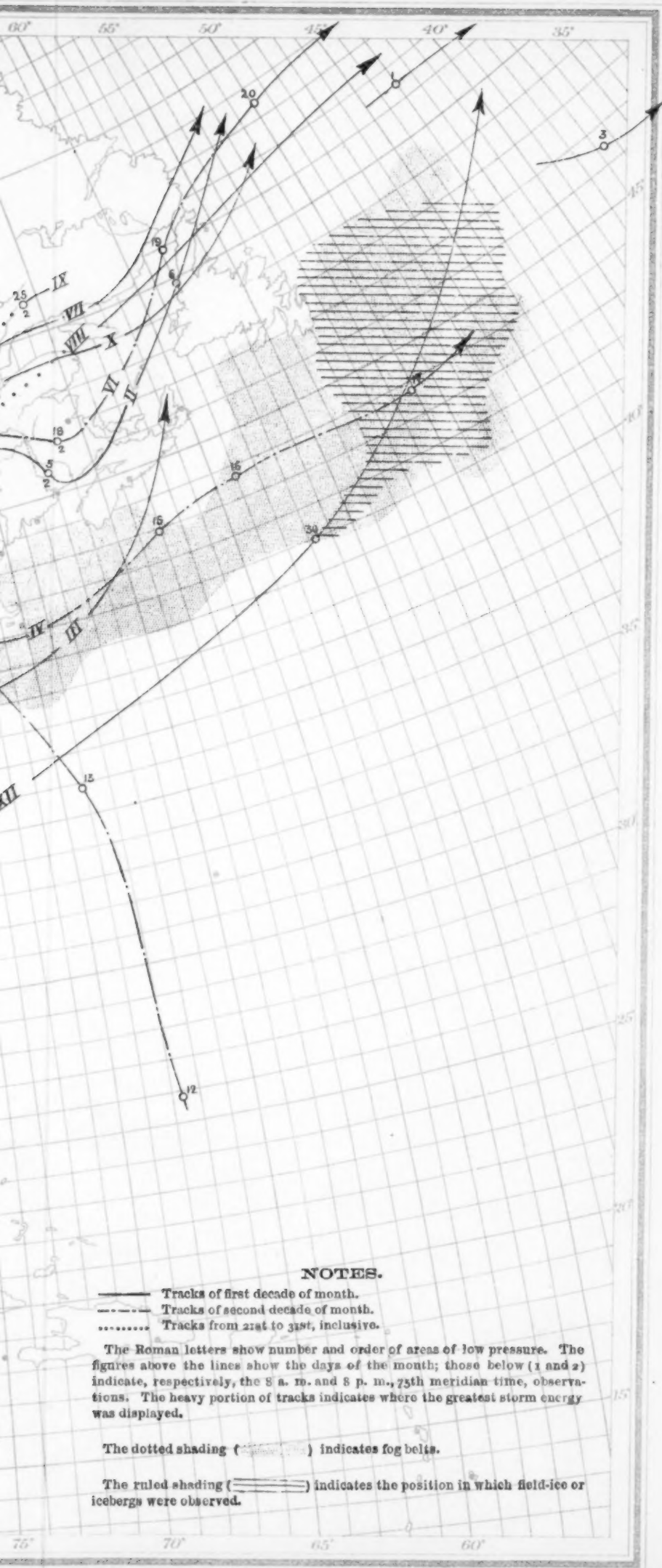


Chart I. Tracks of areas of Low Pressure. May, 1893.





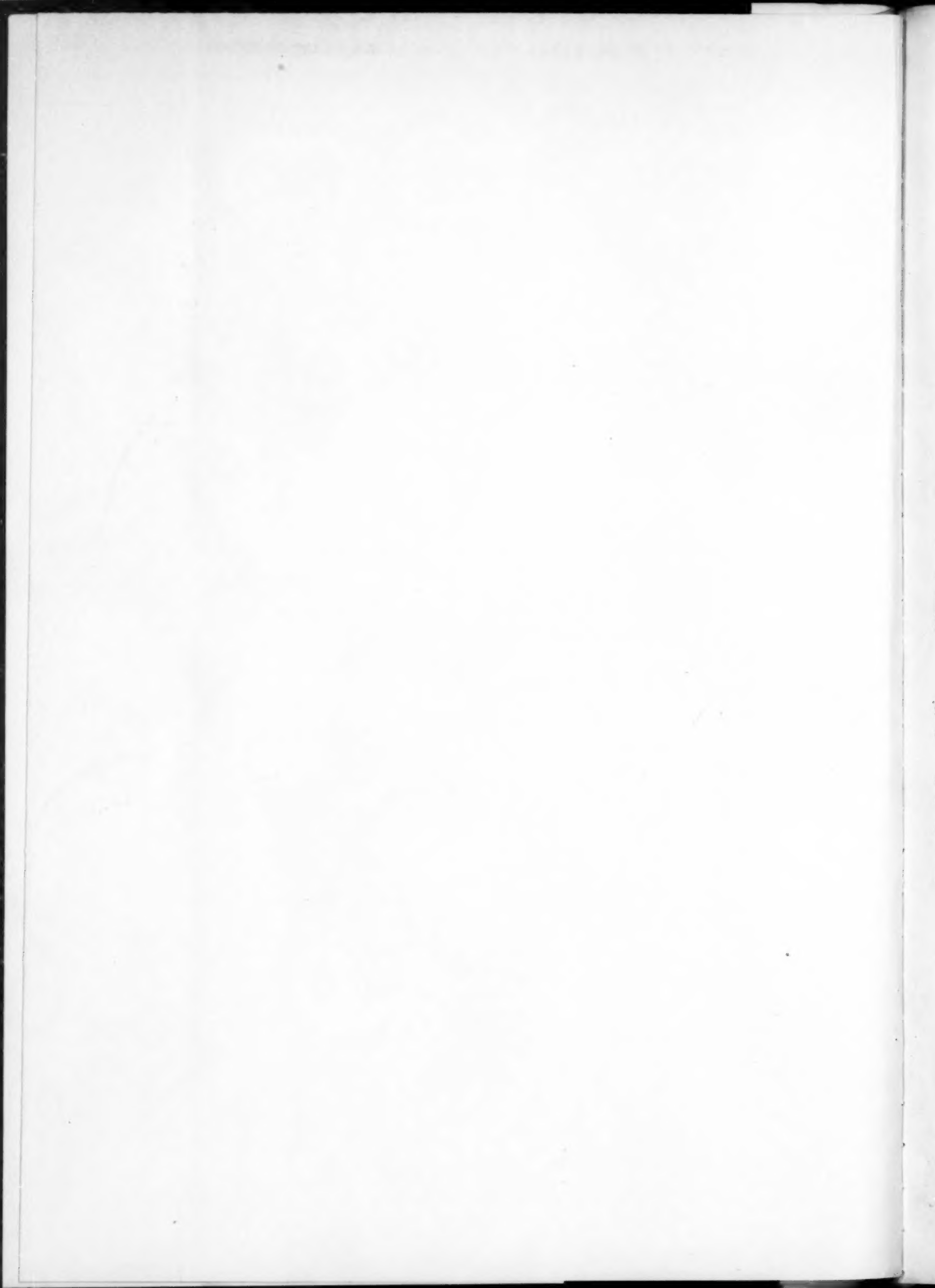
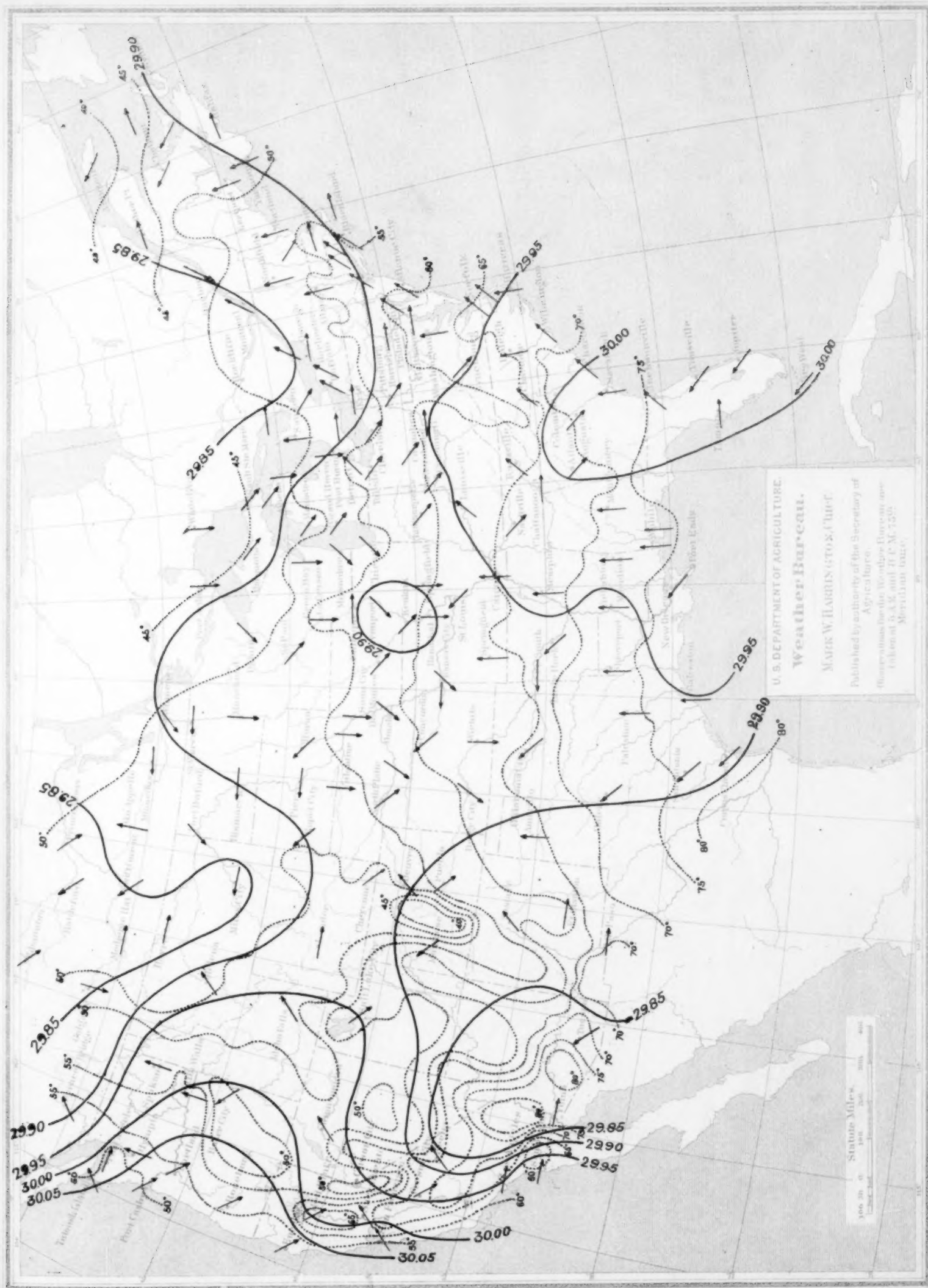


Chart II. Isobars, Isotherms, and Winds. May, 1893.



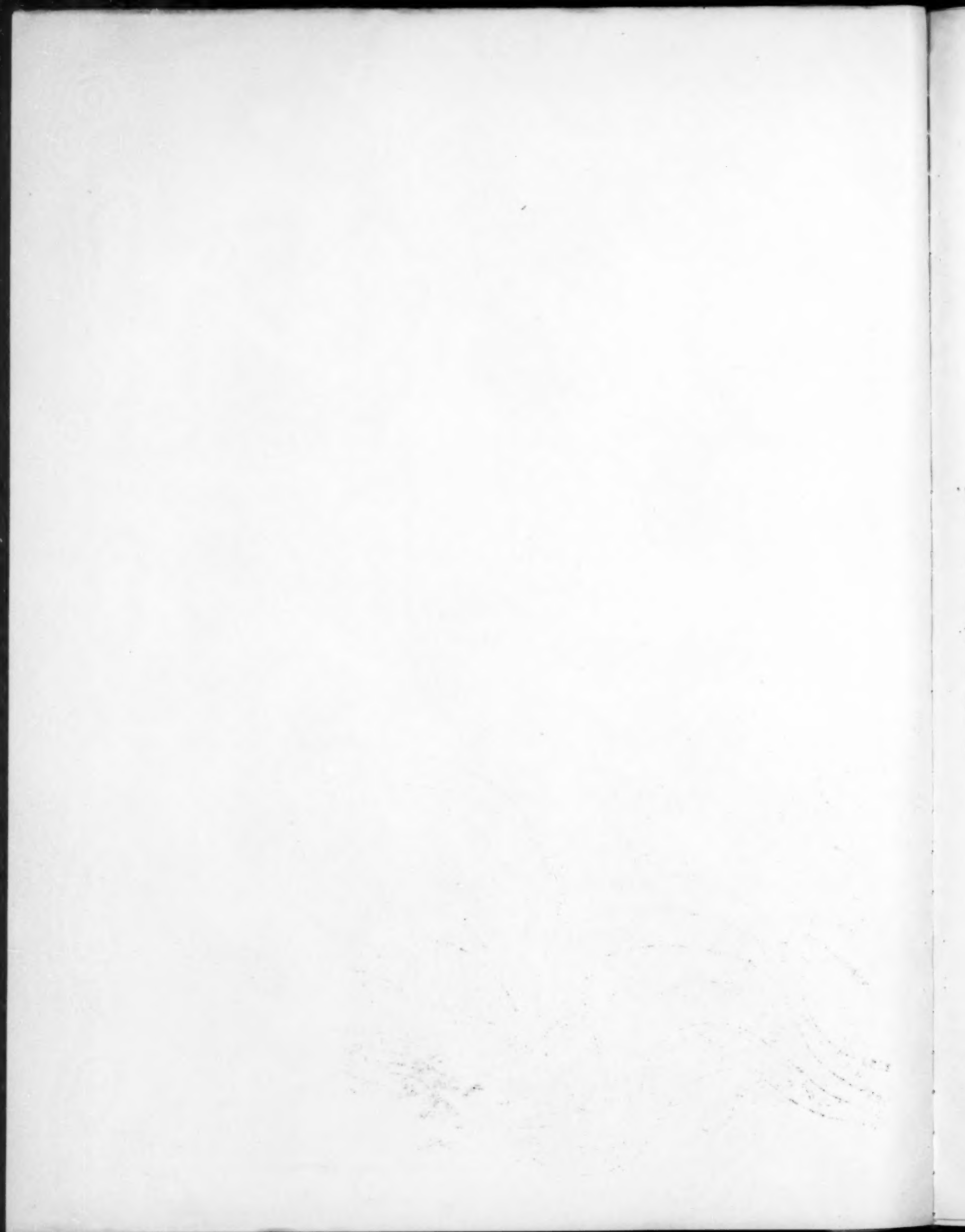


Chart III. Precipitation. May, 1893.

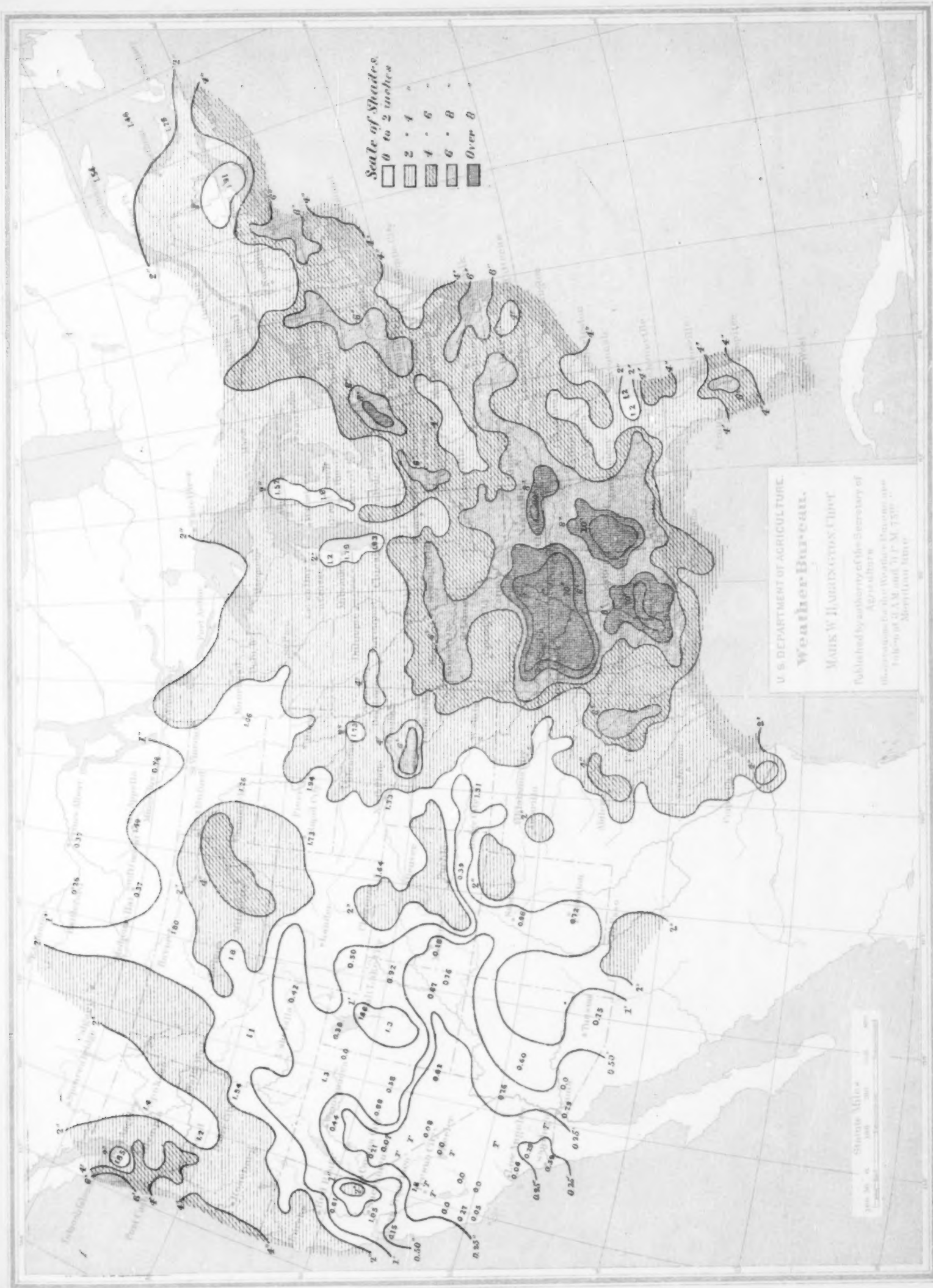


Chart IV. Tracks of areas of High Pressure. May, 1893.

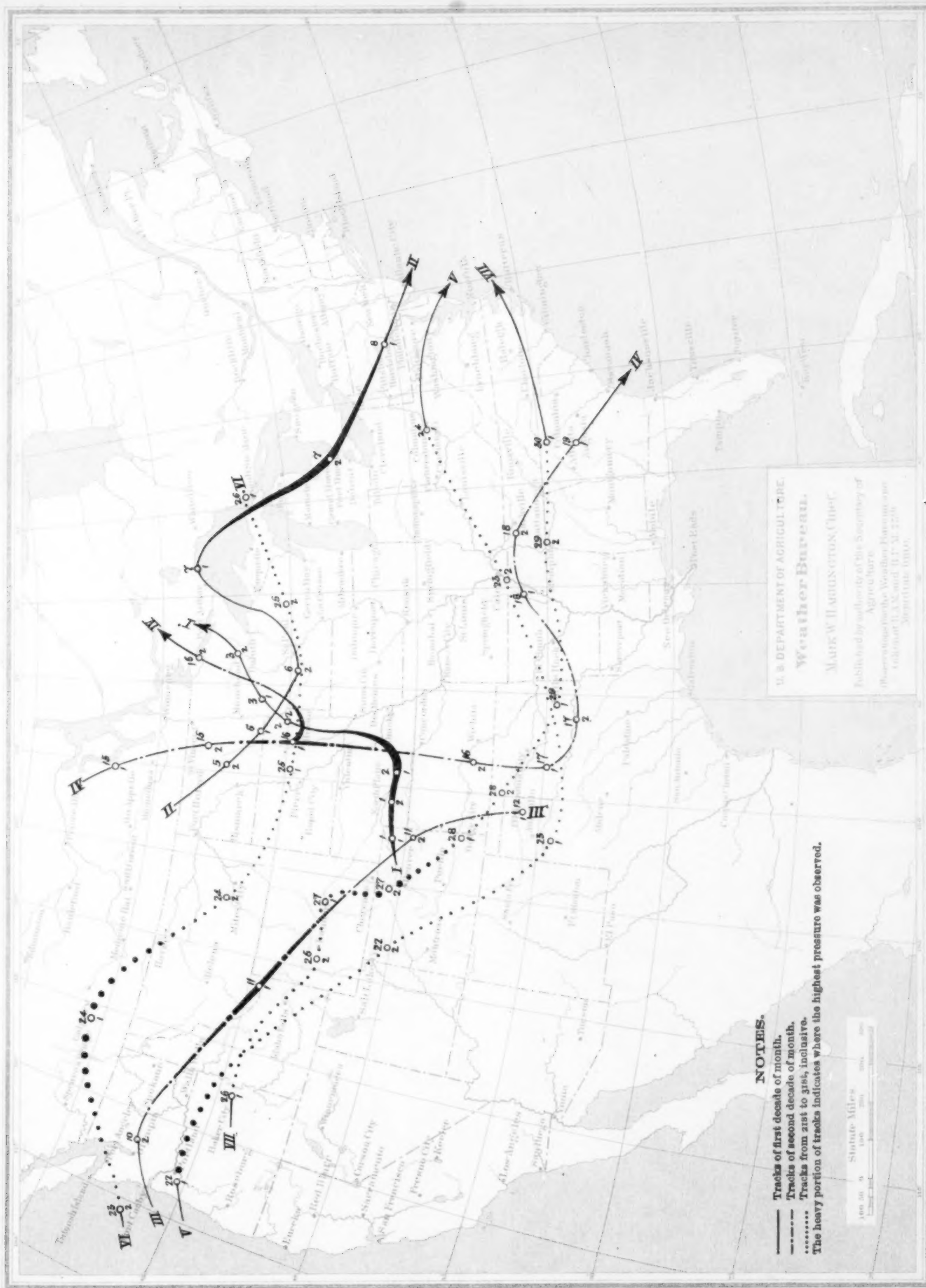


Chart V, Depth of Snowfall (inches) and Limits of Freezing Weather, May, 1893.

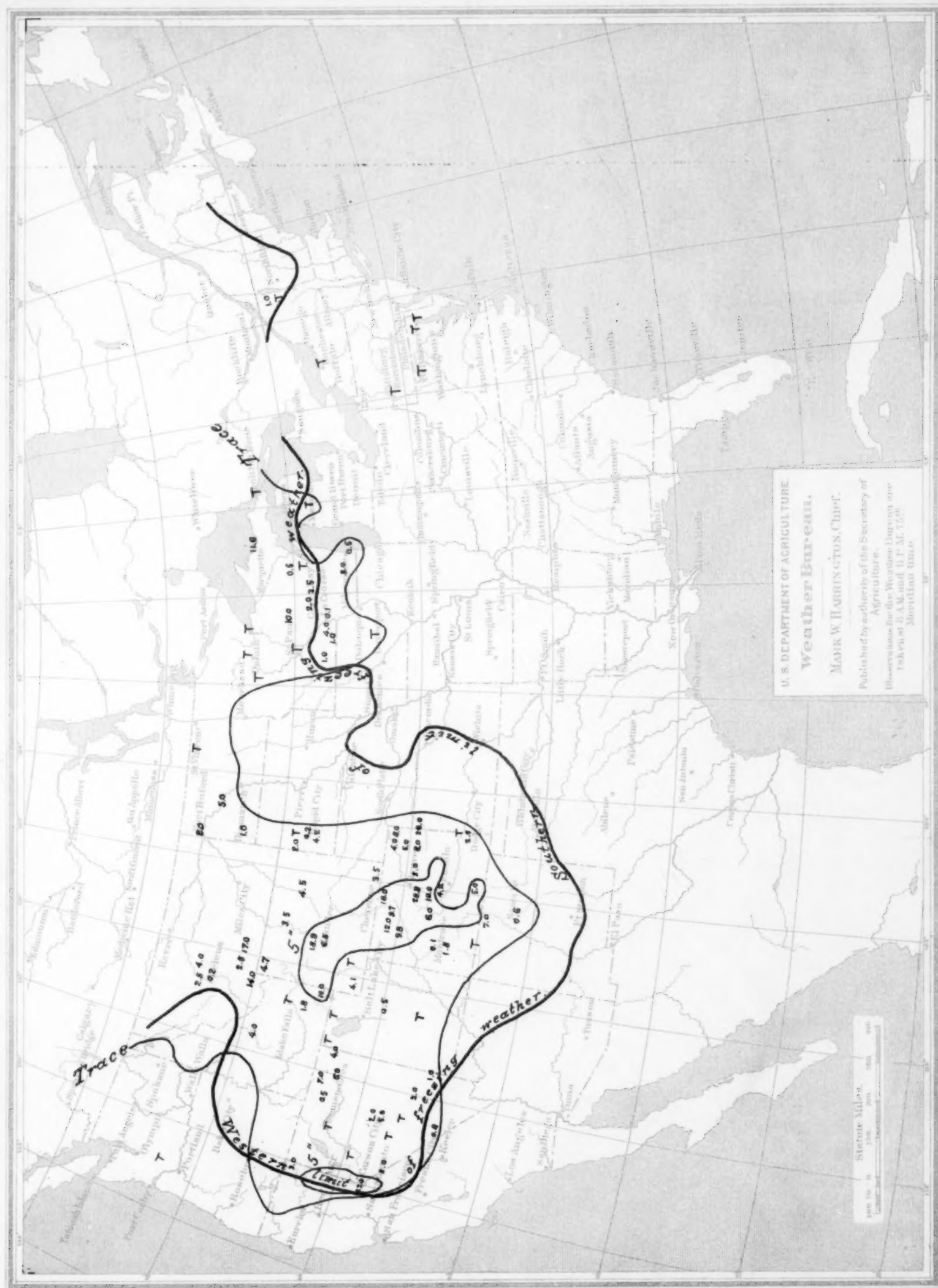


Chart VI. Normal Pressure (20 years) and Average Wind Direction (15 years) for May.

